A Study of Parental Influence on Occupational Values and Job Preferences of Guidance and *Non-Guidance School Students of Isfahan*

ABSTRACT

THESIS SUBMITTED FOR THE DEGREE OF

Doctor of Philosophy

IN

PSYCHOLOGY

BY

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ALIGARH MUSLIM UNIVERSITY

ALIGARH

1979

PARENTAL INFLUENCE ON OCCUPATIONAL VALUES AND JOB PREFERENCES OF GUIDANCE AND NON-GUIDANCE SCHOOL STUDENTS OF ISFAHAN

ABSTRACT

The educational system of a country should be designed to fulfil the hopes and aspirations of its people. Iran started with the 'Maktab' system, adopted the formal schooling system of the French and ultimately changed to the present system where both guidance and non-guidance schools run side by side.

Psychologists since long have advocated the influence of parents and educational institutions in shaping the choice of courses, careers and expectations related to life and work. How the parents influence the choice of occupation and how the children imbibe occupational values are discussed in the light of various theories of occupational choice (Super, 1953, 1963; Roe, 1957; Holland, 1966; Erikson, 1968). The relationship between occupational values and choice has also been discussed. The objectives of the study have been highligh ed.

The second chapter deals with the research design. The tools used have been discussed. Rosenberg's (1957) value orientation approach has been considered and existing jobs in

Iran were accordingly classified as 'People-oriented', 'Extrinsic-Reward-oriented' and 'Self-expression oriented'. The following major hypotheses were tested:

1. Value orientation of parents would influence the value orientation of children.
2. Value orientation of parents would influence job preference of children.
3. Children's value orientation would influence their job preference.
4. Father's occupation would influence children's job preference.
5. Family's socio-economic status would influence students' job preference.

These hypotheses were further extended to study the difference between the guidance and non-guidance school students. The chapter contains sampling procedures and statistical analysis.

The last chapter deals with the results obtained and discussion of the results. It was found that parents value orientation do not influence students value orientation. The rest of the four major hypotheses were found significant. In other words parents value orientation influences the job preference of their children. But this was true only of guidance school students. Father's occupation and family's socio-economic status were also found to influence the job preference of students. Also students' value orientation influenced their job preference.

Parents as well as students preferred medicine (doctor). This was followed by electrical engineering, teaching, nursing, educational counselling for the guidance group. Parents preferred police service, teaching, civil and mechanical engineering. Non-guidance students opted for Imam (religious leader), teaching, judiciary and police service. Armed forces was equally disliked by all the groups. It seems that acute shortage of doctors and engineers together with the prestige value of these professions coloured the preference of the subjects. We find that out of the five most preferred occupational values four were common. Parents and students differed with regard to 'social service' and 'security'. Students prefer the former and parents the later. The findings were interpreted in the light of research investigations. Students generally prefer glittering aspects of jobs whereas middle aged workers prefer security. It is argued that study of social sciences and participation in co-curricular activities of schools might have influenced the students. Probably, the part played by counsellors made all the difference. All the groups have shown preferences for the egoistic needs; self-expression, esteem and fame.

Suggestions have been made to extend such an study to other areas of Iran. Also it is desirable that intelligence, aptitudes and interest should be taken into consideration while studying occupational values and job preferences.

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This is to certified that Mr. Abdulkhalil Farsam has completed his Ph.D. thesis under my supervision. His topic was: Parental Influence on Occupational Values and Job Preferences of Guidance and Non-guidance School Students of Isfahan'. I am fully satisfied with his work.

(S. SULTAN AKHTAR)

ACKNOWLEDGEMENT

I feel highly indebted to my supervisor Dr. S. Sultan Akhtar, Reader in Psychology, Aligarh Muslim University, Aligarh, for his able guidance. I have learned a lot from him and I do not find words to express my feelings.

Late Professor Anwar Ansari, Ex-Dean, Faculty of Social Sciences, Aligarh Muslim University, Aligarh, was a great source of encouragement. This dissertation would not have been completed without his encouragement and inspiration. His death was a personal loss to me.

Professor A. Jamil Qadri, Head of the Department of Psychology, Aligarh Muslim University, Aligarh, extended me all the help and I express my profound sense of gratitude to him.

I am proud of being a student of Professor Ali Shariatmadari, former Dean, Faculty of Educational Sciences, University of Isfahan. He always took keen interest in my development.

Professor Anne Roe, Harvard University, USA, was kind enough to personally discuss the design of the study. She also made available to me relevant literature on the topic.

I feel thankful to Mr. Mashhood Alam Raz who typed the manuscript during a very short time. Many guidance school counsellors of Isfahan helped in collecting the data. I am also thankful to them. Last, but not the least, I wish to thank my wife, without whose patience and encouragement this research work would not have been completed.

ABDOLKHALIL FARHAM

CONTENT

Chaptel 1

INTRODUCTION

The educational system of a country reflects the hopes and aspirations of its people. It is designed to fulfil the aspirations of the people on the one hand and the pressing needs of the country on the other. If the system fails to bring about such a synthesis then no option is left except to remodel it. That is why the educational system is continuously evaluated and changes and modifications are brought about. My country, Iran, is no exception. A particular system of education (Maktab) was patronized in Iran since the advent of Islam. Theology, Arabic and Persian were the main subjects taught by the religious leaders. About 50 years ago modernization in education was introduced when formal schooling was started based on French schooling system. Then young boys and girls (six years and above) were required to acquire knowledge of mathematics and natural science together with theology, Arabic and Persian. Non-Muslims were exempted from the study of theology. The duration of primary education was six years and the duration of High School was 12 years. Those passing High School were called diploma holders. The diploma holders were eligible to pursue their studies in universities. This system worked well till Iran was basically an agricultural

but economically a poor country.

About 30 years back the oil economy necessiated changes in educational system. New factories cropped up and there was a great demand for technicians, skilled persons and trained personnel. So the people in the then government for the first time realised the significance of a planned development of human resources to cater to the needs of the developing country. Again, the educational system from France was borrowed without objectively assessing the prevailing conditions of the country. Guidance schools were established though non-guidance institutions were also allowed to run. It is interesting that guidance schools have become a familiar feature but no research investigation has been undertaken, to the best of our knowledge, to ascertain its effectiveness in determining the desired objectives.

It has also to be borne out that the hopes and aspirations of people are not static. Prevailing economic, social and cultural conditions gear our aspirations. Changes in the above mentioned conditions inevitably lead to changes in our aspirations. This is true about choice of courses as well as careers. Psychological researches have clearly demonstrated that family's socio-economic status influences our job preferences (Samson and Steffre, 1952; Beilin, 1955; Jameson and Kirchner, 1955; Gunderson and Nelson, 1965). Orientation to the world of work begins at an early age during the pre-school years and continues till well past adolescence. Thus

the role of the parents as well as the educational institutions may be deemed to be crucial in shaping the choice of courses, careers and expectations related to life and work. Slocum (1965) rightly contends that occupational decisions are not exclusively the province of the chooser, but are moderated by the demands of society and the availability of jobs. Skills, sex, interest and values influence career choices. It is imperative that the roles of parents and institutions must be considered while studying job preferences.

It is a confusing world to live in. At every turn we are forced to make choices about how to live our lives. Ideally, our choices should be made on the basis of the values we hold. The most important areas where we may experience confusion and conflict in values are; marriage, occupation, religion, courses of studies, leisure time culture and personal tastes (clothes, hairstyle, etc.).

All of us, young or old, often become confused about our values, but for young people especially the conflict in value is more acute. The children and youth of today are confronted by many more choices then those of previous generations. Modern society has made them more sophisticated and less provincial, but the complexity of these time has made the act of choosing infinitely more difficult. How then, does a young man learn to direct his life through a world full of confusion and conflict?

Traditionally, adults and especially parents were motivated

by a sincere desire to have the younger generation lead happy and productive lives. Parents present different models of behaviour of life styles to the child.

Individuals choose jobs or vocations due to diverse socio-personal reasons. Interests, special training and economic conditions, family occupations, etc., all exercise important influences on their choices and decisions.

Vroom (1964) has very cogently suggested that the choice of vocations is not a one sided happening. People not merely depose and decide to enter vocations they are also chosen for vocations. Thus, successful attainment of a job is a result of two sets of choices, one by the individual and other by social institutions. The second aspect of this process is vital for a society or a nation. Only those individuals are admitted to the fraternity of an occupation who are expected to prove effective and are likely to maintain standards of job performance (Akhtar and Pestonjee, 1969).

Individuals are born into social-cultural environment that tends to exert influence on their religious beliefs, attitudes, personality traits and goals which they set for themselves (Young, 1961). The environment not only sets the needs and the goals for the individual but also determine the ways and manners of achieving them (Drucker, 1953). This leads to the logical conclusion that family atmospheres that shape and mould the future behaviour, may influence occupational values as well.

During the last decade a number of investigations have been carried out in India to study occupational values (Bezler, 1963; Pestonjee, Akhtar and Choudhry, 1967; Pal, 1967; Govindrajanulu, 1968; Pestonjee and Akhtar, 1969). Attempts have also been made to study the influence of family atmospheres on occupational choice and values (Switzer, et al., 1962; Utton, 1962; Grigg, 1959; Powell, 1960; Green and Parker, 1965). But such studies have not been undertaken in Iran. If Roe's theory holds good, then it may be visualized that parental attitudes would influence children preferences for jobs and occupational values. Thus parental attitudes, may be treated as the independent variable and occupational values and job preferences as the dependent ones.

The children learn social values as they grow up in the family. In other words socialization makes this possible and that is why it is defined as "The process of inducting the individual in the social and cultural world, of making a child to accept the norms and values of that society" (Young, 1957). Folkways, mores and such other features of culture as well as the skills and other necessary habits which enable one to become a functioning member of society are acquired. "He learns to identify himself with the aims and values of his family, neighbourhood, class and community". Family is the most important agent of socialization and within the family the parents serve as corner stones.

One recent theory which seeks to deal with factors related

to occupational choice is that of Roe (1956-1957). Roe's theory evolves from the concept of the close relationship between an individual's interests and needs, and the relationship between the early life experiences and the development of these interests and needs.

According to this theory, the parents create a particular psychological climate by the manner in which they satisfy or frustrate the early needs of the child. As a result, a basic direction of attention is developed, either towards persons, or towards non-persons. This in turn results in predictable patterns of specific interests in the adults in terms of the field to which he will apply himself. His vocations is one of these, but Roe's hypothesis was not supported by Grigg (1959). Akhtar, Pestonjee and Khatoon (1971) also failed to lend support to Roe's hypothesis.

As we all know, much research has been done by psychologists to determine the role of the family in the child's occupational choice. The family provides opportunities for boys and girls to identify with or reject various adult role models. It creates and develops needs and shapes values, it also provides opportunities for children to show their abilities and skills. In 1951, Ginsburg, Axelard, and Herma set forth the theory that occupational choice progresses through three periods, fantasy choice, tentative choice, and realistic choice. They also believe that the tentative choice period is subdivided into four stages. Interest during the 11-12 age range, capacities during

13-14, values during 15-16, transition during 17-18. Boys pass through the stages in the above order within rather regular age limits.

According to Super (1953) the family is a social, psychological and economic entity. It is psychological because its members have needs, attitudes and feelings which are important in themselves and to the function of the family as an entity. It is social because it consists of several people who function as a unit. It is economic because it provides certain services. It manufactures or processes certain goods and it distributes these goods both within and without the family unit.

Parents influence the occupations of children by the direct inheritance of the father's occupation, for example, almost all farmers are recruited from farmer's sons. Direct inheritance of a father's occupation will most likely occur among those occupations which require capital investment or childhood participation, both of these elements are found in farming.

Parents, especially of the middle class, project their ambitions into their children, and want them to apply for a high level job through education. For this reason, the child's education is of supreme importance to them. Going to school occurs most consicuously during the early stages of a career and is an essential part of getting people committed to careers and prepared to fill positions. Both processes may or may not be going on at the same time. However, movement from one kind of

job or position to another virtuality always necessitates some sort of learning, sometimes before, sometimes on the job, sometimes through informal channels and sometimes at school. If the counsellor in our guidance schools are interested in being effective, they should help the students to know themselves, their abilities, needs, values and interests, and also the world in which they are developing and in which their career will unfold. They should be aware of economic conditions which may modify career and also should be aware of social factors which may affect their work. As we all know, the above factors are concerned with the problem of job selection.

It may be reasonably agreed that the family and especially the father who is usually the breadwinner exert the most important influence on the jobs preferences and development of growing children. Studies by Davidson (1937), Anderson (1965), Fryer (1939), Krichner and Jenson (1945) have clearly shown the relationship between the vocational development and choices of boys and their father's occupation. Recent studies (Lea and King, 1964; Hubbard, 1965; Anderson and Olsen, 1965) on American students have given convincing evidence regarding the personal influences as determinants of vocational choices of boys and girls.

An occupational choice is not a value, but it is made on the basis of values, for a value is a conception of the desirable. Values are things in which people are interested,

things they want, desire to be or become, feel as obligatory, worship, enjoy.

There is no doubt that values are the most important indicators of man's behaviour. Psychologists and sociologists have proposed several definitions of values and each discipline has emphasised a special aspect of values. According to Murphy (1951) value is that which makes objects desired or desirable or to be sought after. For Remmers (1954) values represent the interiorised moore or the subjective appreciation of what is good, worthwhile and excellent behaviour. Values are essential for his adjustment to social reality. Thus, an individual's value-scheme or set of values refers to the pre-suppositions by which he lives and the intentions which direct his actions along one dimension of behaviour rather than another. Curtis (1960) suggests that values are objects, ideas and beliefs which one cherishes. It is certain that values are the most important differentiator between human and animal societies and that human societies differ from each other because they have different values. Values change with time but the speed of change is due to many factors. The most important media of change is the technology and the level of general education in society. According to Margenau (1959), a value is the measure of satisfaction of a human want.

Most sociologists have emphasised the social aspect of values and believe that values are made in society and in relation to different societies, and that values vary with time.

Karl Marx, in his famous theory, believes that values are made according to economic and technological changes, and to changes in the methods of production, in every society. On the other hand, psychologists tend to believe that the values of a society affect and determine the behaviour of an individual.

Everyone of us meets life situations which call for thought, decision-making and action. Some of our experiences are familiar, some novel, some are casual, some of extreme importance. Everything we do, every decision we make, every course of action we take, is based on our consciously or unconsciously held beliefs, attitudes and values. Students, like adults, face problems and have to make decisions every day of their lives.

The youth of today are the occupational elite of tomorrow. On their present decisions hings the fate of industry, commerce, politics, the professions, the arts and science and the educational system of the future. This, then, is a particularly crucial group to study, the people who will occupy the key social positions in times to come. Not only students are an important group to study but the time when we study them during their school years is a period of central significance in the occupational decision process. At high school, the students ideas about work are still relatively undistorted by the special conditions of the job situation in which he will eventually find himself. It is, therefore, easier to observe the influence of certain abstract factors,

such as values, attitudes, personality and images, as they bear on the decision process. To observe the student while he is in high school also makes it possible to study change and development in occupational choice, the flow in and out of various occupations, the mutual interaction of occupational choices, values and the resolution of occupational conflicts. It is possible to visualise the occupational decision process as a series of progressive delimitations of alternatives. A number of factors in the individual and society operates to cut down the broad range of available occupational possibilities. The bases for the elimination vary: some occupations are not socially appropriate for an individual occupying a certain social status. Some occupations are not possible for an individual with certain characteristic knowledge and resources and some occupations are not desirable for an individual with certain values, attitudes and personality characteristics. Sex, race, religion and nationality factors also enter in the progressive delimitation of occupational alternatives.

What we all know is that the greatest part of the time a person is awake is spent at his work. Even the social position of an individual is understood by the type of work he does, for example, when we introduce a person, we might say "my friend is an university lecturer, or he is a physician, etc." Every society has to somehow arrange to get people to do what has to be done in order to enable the society to keep going and prosper. It must so distribute its human resources, both in quantity and

quality so that the special needs will be satisfied. From the point of view of the individual, work will have an important influence on diverse aspects of his life. The chances of living a life characterised by productiveness, self-actualisation and self-fulfilment will depend to an important extent on the degree to which our work allows us to exercise our creative potentialities.

It is obvious then that the individual's occupational decision has important implications both for society and for his future life's activity and satisfactions. Generally speaking, the individual's decision is limited to those occupations about which he knows something, which are appropriate to his class position and sex, which are not barred by ethnic discrimination or byllimitations of physical and mental endowments and material resources and in which realistic opportunities for occupational practices exist.

The vocational counsellors in our guidance schools who have the responsibility of advising and helping their students to choose suitable courses are obliged to use the research findings of psychologists, sociologists and economists.

The world of work is complex. The number of occupations existing in Iran during the year 1970-73, according to the classification of the Planning Organisation of Iran, were approximately 22,000. So it is important that those who would guide the young, namely counsellors in guidance schools and parents, etc., understand the major aspects in which occupations

vary and use this understanding of the major dimensions of work to classify them for students so that they are less confusing. With this kind of classification in mind and with some understanding of the student with whom he is dealing, the counsellor may then have some notions of where the student fits into the scheme of things. I think this is the most important aspect of a counsellor's duties with regard to both the student and society.

However, Miller and Form (1951), in a brief discussion of occupational choice, state that accident is the deciding factor in the determination of the occupation of most workers. The accident is the accident of birth, which establishes family, race, nationality, social-class and residential and cultural opportunity. The range of occupations that an individual will consider when choosing his vocational goal is determined largely by the status expectations of the social class to which he belongs. They also believe that the process of trial and error determines the vocational goals of more individuals than does vocational counselling.

Increased theoretical and empirical attention has been given to the developmental nature of how and why individuals choose and adjust to occupations. According to Erikson's (1963-68) theory, an individual goes through eight developmental stages, in each of them he must face and cope with a central psychosocial problem or crisis. The eight crises outlined by Erikson are: basic trust versus mistrust, autonomy versus shame and doubt, initiative versus guilt, industry versus inferiority,

identity versus identity confusion, intimacy versus isolation, generality versus stagnation and ego-integrity versus despair. Counsellors (Blocher, 1966; Galinsky, 1968; Fast, 1966; Tiedeman and O'Hara, 1963) have recognised Erikson's ideas for their possible theoretical significance in counselling, guidance and vocational development.

Vasvada and Dixit (1969) have taken up a research project to describe ways in which learning environments differs and to relate these environmental differences to students values and their level of aspirations. Schrecker (1968) believes that primitive man was required to work in order to survive, but modern man has come to depend upon work for more than survival. Observations of men in retirement, of men out of work because of economic adjustments during great depressions or technological obsolescence, of men deprived of work by illness, suggest that work is of more use to man than that of simply earning a living. Morse and Weiss (1955) contend that men would work even if they could be financially independent of work. According to them, working gives man a feeling of being part of larger society, or having something to do, or having a purpose in life.

A person comes to assess his own value when he works and when he observes the effects of his work. He also measures the benefits of his own job for society when considering his work and demonstrating his potential. An adequate understanding of how an individual selects a particular pattern of behaviour from

several alternatives is a fundamental problem. Erikson (1950, 1959) and Rogers (1959) have emphasised the influence of an individual's self-concept upon his complex decisions. Super (1957) has attached great significance to the role of the self-concept in the development of an individual's vocational choice. Cronbach (1960) states that vocational interests are an expression of personality needs and patterns.

Super (1957) and his associates say that the self-concept seems to admirably lend itself to the formulations of broad principles explanatory of occupational choice and vocational adjustment. He also believes that the choosing of a certain set of social roles, such as that involved in vocational choice, and the rejecting of others is dependent on the characteristics which one attributes to oneself on either a conscious or unconscious level and the characteristics which are attributed to performance in the various social roles. The choice is then made on the basis of the extent to which an individual sees himself in the role or the role as befitting himself.

Anne Roe in her book on the Psychology of Occupations (1956) points out that needs, whether at the conscious of unconscious level are the major determinants of occupational choice. She subscribes to the need theory of Maslow and emphasises the heirarchy among needs.

Caplow (1953) comments that we know little of how people choose their vocation, although he also believes that trial and

error plays a large part. He discusses several selective factors which operate to determine vocational choice.

Numerous studies have dealt with potential stimulants in the individual's work environment and have frequently compared types of job characteristics in terms of their relative importance to the employee (Dunnette, 1965; Friedlanders, 1964; Herzberg, Mausner and Snyderman, 1959; Porter, 1963). Counselling for occupational choice involves among other things some notion of the amount of satisfaction likely to be attained in the career being considered. Darley (1955) points out that a man's working life span ranges between 40 to 50 years. During this period he keeps his nose to the same kind of grindstone. Thus it is important to consider what makes a grindstone attractive and what satisfaction can be found in the jobs.

We need more useful diagnostic schemes to identify the nature of a person's vocational decision-making problems and to specify the most effective treatment. Such schemes would improve the quality and efficiency of vocational assistance in many settings. Dubin (1966) found that for a vast majority, work and place of work were not central life interests. Similar results were obtained by Whitehill (1964). Contrary to the findings of these two investigators, the results of a study done by Friedlander (1966) suggest that the world of work embodied a small proportion of life values, but represents a majority of environmental variables with which the invididual has

an opportunity to promote an effective and competent interaction with his environment. It may be pointed out that some times it is difficult to discriminate between life values and environmental variables.

Research about the occupational values, method of seeking jobs and the future of any job is especially important in Iranian society. A large number of people in the field of agriculture have changed their jobs, seeking higher incomes and better living standards. Farmers give up their jobs in the villages and go to the big cities, looking for new jobs. Consequently, this process causes residential, traffic, and socio-economic problems. All of these make the study of occupational values and choice of career in Iran a very necessary thing. As a consequence of the change most of the Iranian workers who come from rural areas to big cities find themselves in rather a difficult position. Traditionally, Iran has been an agricultural country and the social structure is primarily based on traditional forms of stratification. It is true that contact with Western countries, especially in the last decade, has eased the pressure of these norms. But as we mentioned before, a majority of our workers in industrial organisations come from rural areas where the traditional patterns are still powerful. Their smooth adjustment to industrial life has to take place while adhering to the attitudes and values of the culture in which their whole life is anchored. This is the most important problem in industrial organisations of Iran.

Even though some work has been done in establishing the number of job holders in every department of industry and the number of jobs available in every field like management, agriculture and industrial organisations, Scientific research to determine the occupational values or the methods of selecting a job has not yet been done. Counsellors in our guidance schools use the results of research studies that have been conducted in other countries, specially America. But, the socio-cultural differences between the countries may seriously restrict the applicability of the research findings. Thus it is apparent that we should conduct researches in our country and counsellors should make use of these findings.

Although this study has been done in only one of the cities of Iran, namely Esfahan, the results of this research have general applicability for the whole country for the following reasons. First because Esfahan is the most populous city in Iran after Tehran and second it is mostly an industrial city. Esfahan is the most important industrial city in Iran and has Steel Mill, a Helicopter factory, textile mills, building material factories, etc. Therefore, specialists and skilled workers from all over the country live in the city and one can consider the city a true representative of the whole Iranian society.

Before we embark upon to enumerate the objectives of the study a few facts must be highlighted. The family link in Iran is very close, specially the parent-child relationship.

It is a common feature that married couples reside with their parents. The child has solely to depend on parents for his upbringing, education and adjustments to life. The respect of wishes and desires of parents is highly valued. Thus it can easily be visualised that the children try to model their behaviour pattern on the lines of the behaviour of their elders. In such a case the occupational values could be easily imbibed by the children. The present study would like to empirically test the hypothesis.

We have observed that job preferences are influenced by occupational values. We would like to test this assumption. The investigation may reveal the influence of individual's occupational values on their job preferences as well as the influence of parental occupational values on their children's job preferences.

We stated elsewhere that both parents and educational institutitions influence our choice and preferences in general and occupational preferences in particular. We would compare the differences in the occupational values and job preferences of guidance and non-guidance school students. Such a comparison would indirectly reflect the efficacy of functioning of guidance schools. Broadly speaking, if the job preferences of the students of the two schools are similar, then it can be assumed that the counsellor fails to play the desired role.

The social scientists are often accused of conducting researches that hardly have social relevance. But the present

investigation has tried to tackle a very pertinent and pressing problem of Iran. The findings may be utilised by social psychologists, sociologists, educational planners as well as counsellors. The results may be helpful in planned development of human resources because the socio-cultural conditions of Iran have been taken into consideration. Thus the chances of lopsided planning of educational system would be minimised.

Chapter 2

METHODOLOGY

The purpose of the present investigation is to study the parental influence on occupational values and job preferences of school students (guidance and non-guidance). In the preceeding chapter we stated some features of the present study. Here we would like to discuss the hypotheses framed by us and the methodology adopted for carrying out the present investigation.

Rosenburg (1957) has classified values as "people-oriented", "extrinsic reward-oriented" and "self-expression-oriented". When people view their work as an opportunity for obtaining the gratification to be derived from interpersonal relations, they are said to be 'people-oriented'. When people tend to emphasize the rewards to be obtained for work, rather than the gratifications to be derived from work, are classified as 'extrinsic-reward oriented'. When people view their work as an opportunity for expressing their talents and creative potentialities, they possess 'self-expression oriented' value.

We are reproducing the classification of Rosenberg's occupations according to value orientations. We followed Rosenberg's classification and we classified the jobs mentioned

in our National Bulletin (Iran). Similarly we classified the occupational values given in Center's Job Value Card. Thus social service, leadership and fame were classified as 'people-oriented' occupational values. Profit, security and power were classified as 'extrinsic-reward oriented'. Also self-expression, independence and esteem as 'self-expression oriented' occupational values.

The hypotheses framed in the light of the above mentioned discussion are stated below:

1. Value orientation of parents would influence the value orientation of children.
2. Value orientation of parents would influence job preference of children.
3. Students' value orientation would influence their job preference.
4. Father's occupation would influence children's job preference.
5. Family's socio-economic status would influence job preference (students).

Apart from these hypotheses we also propose to compare the parental influence on value orientation of guidance and non-guidance school students.

6. Value orientation of parents would influence the value orientation of guidance school students.
7. Value orientation of parents would influence the value orientation of non-guidance school students.
8. Value orientation of parents would influence job preference of guidance school students.
9. Value orientation of parents would influence job preference of non-guidance school students.

10. Students' (guidance school) value orientation would influence their job preference.

11. Non-guidance school students value orientation would influence their job preference.

12. Father's occupation would influence guidance school students' job preference.

13. Father's occupation would influence non-guidance school students' job preference.

14. Family's socio-economic status would influence guidance school students' job preference.

15. Family's socio-economic status would influence non-guidance school students' job preference.

Even a glance over the title of the problem impresses us with the fact that the basic measurements would be of occupational values and job preferences. Occupational values are usually measured with Center's Job Value Card (1948). Most of the Indian psychologists have used Center's Job Value Card to evaluate occupational values (Pestonjee, Akhtar and Chowdhary, 1967; Pestonjee and Akhtar, 1969a, 1969b; Akhtar, Pestonjee and Khatoon, 1971), though some researchers have used questionnaires for this purpose (Govindrajarjulu, 1968, and Pal, 1967). Centre's Job Value Card comprise ten items. All the statements were translated into Persian. The subjects were asked to write numbers from one to five within the brackets in front of each item, according to their preferences. That is, if the subject very much prefers 'Social Service', he writes 5 in the bracket. If his preference priority is low he writes number 1 in the bracket. The subjects were free to give five types of answers and establish their likes or

dislikes towards the items. The following appeal and instructions were printed on the job value card.

"The purpose of this investigation is to study the desired aspect of jobs. The success depends entirely on your frank responses and whole-hearted cooperation. Please keep in mind that you have to tell us about your likes or dislikes. Please read the statements carefully and indicate the extent of your liking or disliking against each aspect".

"If you very much like an aspect, please write 5 within the brackets. If you like an aspect, place 4 within the brackets. If you slightly like an aspect, place 3 within the brackets. In this manner you have to assign a rating ranging from 5 to 1 against each aspect".

( ) A job where you could be a leader (leadership).

( ) A job where you could be looked upon very highly by your fellowmen (esteem).

( ) A very interesting job (interest).

( ) A job you were absolutely sure of keeping (security).

( ) A very highly paid job (profit).

( ) A job where you could make a name for yourself or become famous (fame).

( ) A job where you could work more or less on your own (independence).

( ) A job where you could express yourself, your feelings, ideas, talents or skills (self-expression).

( ) A job where you could meet other people (social service).

( ) A job where you could be a boss (power).

We used the job questionnaire that was prepared by the office of Planning of Guidance Education (Iran) for determining job preference. In this questionnaire, 142 existing jobs in Iran were listed. The particulars of the jobs were explained in the job bulletins that were distributed to the students of guidance schools, and three samples of them are attached (Appendix A).

The Job Interest Questionnaire, developed by the experts of the office of planning of Guidance Education of Iran was used (Appendix B).

We asked the respondents to name, in order of importance, four different jobs. The most preferred job was to be assigned a ranking of 1.

First we distributed the job bulletins. These job bulletins were specially prepared for guidance school students by the office of the Educational Guidance Planning of Iran, located in the capital, Tehran. Each bulletin briefly described a job. Descriptions are simple and accompanied by pictorial presentations so that the students feel no difficulty in understanding the contents. It explains the level of skill required, the place or places where these jobs would be available, monthly income, nature of the job (governmental or private) and the procedure for applying for the job.

The counsellors provide guidance to the students with the help of the bulletin just described. Thus the guidance schools

students are usually familiar with the various aspects of jobs. We used the bulletin and the subjects were asked to indicate their first four preferences on the bulletin. The subjects were also required to furnish the following information:

INFORMATION FORM

Please supply the following:

Name	Surname	Name of School
Sex	Age	District

Parent's occupation (Father/mother)
Parent's monthly income
Number of brothers
Number of sisters

Parent's education	Father	Mother

Sample

Before we discuss the procedure of sampling it seems necessary to throw some light on the schooling system of Iran. The old educational system of Iran had three levels: Primary, middle and higher education. The age of entering primary school was six and it lasted for six years. The main subjects taught were reading and writing Persian and Arithmetic. The middle school's duration was three years and all the courses were compulsory except theology for those who were not Muslims. In High school the courses were divided into three branches: natural sciences, mathematics and literature. Home science was also taught to women. So usually after twelve years an

individual graduated from High School in one of the four branches with a diploma.

We started the new educational system in 1966. The age of entry in elementary schools is five and its duration is five years. The students who complete elementary schooling enter guidance schools and study there for three years. After that they have to chose any one of the following fields of study: (i) human science, (ii) mathematical and experimental sciences, (iii) agricultural science, (iv) professional courses (such as tailoring, commerce and trade, etc.), and (v) technical courses (such as civil, electrical and mechanical).

Those who opt for non-guidance schools they may get admission at the age of 6 years. They have to persue a 12-year course and get their High School Diploma at the age of 18 years. In Elementary School they study reading and writing of Persian, arithmetic and basic concepts of science. In High School they study mathematics, natural science and Persian literature. They also study theology.

Approximately every family in Iran has a student in guidance or non-guidance school. The students and their parents as well as the authorities of the Ministry of Education eagerly want to assess the results of these changes in the educational system.

There is a counsellor for every 700 students in guidance schools. The counsellors hold Master's degree in guidance and

counselling and have to undergo some special training before their employment. Their main work is to help the students in selecting suitable courses of studies, in making proper choice of a vacation and in solving their personal problems.

The professional courses consist of 16 different jobs like nursing, gardening, cooking, etc. Every student must take all the courses in the first year. For the second year they can choose four fields out of them, and at least two courses in third year according to his/her interest. Counsellors also use some psychological tests for measuring abilities, interests, intelligence and educational achievement in different subjects.

First of all it should be mentioned here that Esfahan is divided into four districts. The number of schools in each district and the name of the guidance and non-guidance schools and the number of the students in each school is given in tables 1 to 5. This is being done for the sampling purposes.

This statistics was obtained from the Educational Board of Esfahan during the academic session 1975-76. Data was collected during October, 1975 to May, 1976. Because of the large number of students, we decided to randomly select 1 out of every 100 students from guidance as well as non-guidance schools. The detail of the sample is reported in table 6. We may be allowed to mention that the students studying in non-Muslim and blind schools were not included in the study.

The names of the schools were written on pieces of paper and put in a box and for schools which had a large number of

Table 1

GUIDANCE SCHOOLS

District 1

Name of the school	No.of students enrolled	Name of the school	No.of students enrolled
Farahanas	162	Kyahan	96
Khoram	421	Farhan-Homar	143
Manije	510	Shams	556
Rodabe	223	Sarmie	482
Aminoodole	413	Amirkabir	606
Amirgholiamini	187	Farhang	337
Amin	269	Abnesina	306
Bahat	286	Korosh	312
25 Shahrivar	256	Ssasan	235
Pishoro	229	Car	237
Forandokhat	464	Abomasood	550
Salahshoor	1,130	Arshad	230
Asmoon	198	Ahmadie	307
Mehredanesh	336	Abonaim	315
Homa	260	Kherad	229
Ababasir (blind school)	10	Zahedi	335
Arfan	330	Shahriar	316
Kasemnaseimkhani	318	TOTAL	12,877

NON-GUIDANCE SCHOOLS

Shahdokhat	308	Saab	450
Aminodaleh	152	Nemoneh	322
Bahar	320	Abonaim Nafez	195
Salahshoor	108	Kharazmi	143
Rodabeh	160	TOTAL	1,959
Mehredanesh	82		

Table 2

GUIDANCE SCHOOLS

District 2

Name of the school	No.of students enrolled	Name of the school	No.of students enrolled
Anahita	494	Hatambeik	964
Bahamaniar	227	Nobonia	180
Majdehaiandeh	296	Harati	305
Beheshtain	267	Kashefi	325
Farzaneh	419	Karimkhansadm	287
25 Shahrivar	407	Rabeah	302
Setreh	260	Naserkhosre	219
Maryambaygom	333	Alirezaabasi	379
Colestanism	144	Mehrem	266
Parokhroparsa	81	Daryosh (boys)	403
Arjang	7,700	Dayosh	94
Beharealm	315	Merat	186
Rahmat	41	Rabeah	318
		TOTAL	10,043

NON-GUIDANCE SCHOOLS

Beheshtain	456	Nashat	186
25 Shahrivar	220	Samenieh	248
Maryambaygom	160	Harati	360
Adab	720		
Hakimsanai	222	TOTAL	2,572

Table 3

GUIDANCE SCHOOLS

District 3

Name of the school	No.of students enrolled	Name of the school	No.of students enrolled
Aiatola Arbab	820	Asarmidokht	246
Korosh Aria Mehr	189	Razavi	243
Khashaiar	655	Mir	478
Shahebas	441	Saba	277
Kasra	180	Kimiaiesadat	201
Girl Wahid	643	Behzad	208
Aiandeçan	370	Boy Wahid	470
Korosh	630	Navid	206
Khaghana	234	Mohazeb	545
Boail	140	Anvari	350
Eighth	553	Mandana	140
Bastakhiz	189	TOTAL	8,619

NON-GUIDANCE SCHOOLS

Shahzebano	588	Shahebas	656
Asarmidokht	264	Khaghani	370
Sadi	580	TOTAL	2,398

Table 4

GUIDANCE SCHOOLS

District 4

Name of the school	No.of students enrolled	Name of the school	No.of students enrolled
Khajeamid	324	Amin	540
Mashaiekh	370	Somanchi	1,120
Kashefi	440	Sixth Bahman	610
Ninth Aban	437	Saghir	540
Azadegan	210	Faroghi	607
Parvineatesami	290	Nematbakhsh	476
Fasharaki	350	Ghosieh	181
Goharshad	362	Boy Atehad	68
Mehrain	336	Baharalm	315
Girl Atehad	62	Jamshid	216
Nordanesh	160	Dehkohda	270
Hashem	270	Mehram	268
Hadef	286	TOTAL	9,045

NON-GUIDANCE SCHOOLS

Shahnaz	486	Hatef	968
Goharshad	320	Attehad	140
		TOTAL	1,914

Table 5

No. of guidance schools and the students of Esfahan in General

District	No.of schools	No.of students enrolled
1	35	12,877
2	29	10,043
3	23	8,619
4	25	9,045
TOTAL	112	40,584

No. of non-guidance schools and the students of Esfahan in General

District	No.of schools	No.of students enrolled
1	10	1,959
2	8	2,574
3	5	2,398
4	4	1,914
TOTAL	27	8,845

Table 6

GUIDANCE

District	No.of students enrolled	Required No. of students
1	12,877	129
2	10,043	100
3	8,619	86
4	9,045	90
TOTAL	40,584	405

NON-GUIDANCE

1	1,959	20
2	2,574	26
3	2,398	24
4	1,914	19
TOTAL	8,845	89

students, for every one hundred of them an extra ballot was added to the box. Then we asked a student to draw names of the schools from the box. Thus we selected one school from each district as shown in table 7.

Table 7

GUIDANCE

District	Name of the school	No. of students	Chosen
1	Kanije	510	129
2	Hatambeik	964	100
3	Wahid	643	86
4	Sosanchi	1,120	90
TOTAL		3,237	405

NON-GUIDANCE

District	Name of the school	No.of students	Chosen
1	Abonain-Hafez	175	20
2	25 Shahrivar	220	26
3	Shahrebano	508	24
4	Atihad	140	19
TOTAL		1,123	89

The same process of random selection was repeated in choosing the required number of students from each school. Numbers from zero to nine were written on ballots and were put in a box. One number was picked, at random, say 6. Then from the students' list of the school, all the students whose numbers ended on six, like 16, 26, 146 and so on, were chosen. Since in some schools the chosen number was less than the required number,

again a selection was made among numbers ranging from zero to nine, excluding six because it had already been chosen. If zero came out then all the students whose numbers ended with zero, like 20, 30, etc., were selected. We repeated the procedure till the required number of sample was obtained.

The parents of the selected students were located, except those who were dead or were not available. Thus we had a sample of 405 guidance school students and 152 parents. The selected students and parents were administered translated versions of Center's Job Value Card and the Job Bulletin discussed earlier. The students and the parents who failed to complete the questionnaires were not included in the study. 244 students and 152 parents gave their responses on the test material.

A similar procedure was adopted for collecting data from non-guidance school students and their parents. The sample comprises 78 students and 30 parents. Here also incomplete returns were discarded.

Statistical analysis

The respondents were required to rate the occupational values from five to 1. It means that the most preferred value was to be rated 5 and the least one was assigned a rating of 1. Similarly, they rated the jobs. The occupational values assigned ratings of 5 and 4 were considered as "preferred". Similarly jobs which were assigned ranks of 1 and 2 were taken as preferred. Occupational values as well as jobs were

classified as 'People-oriented', 'Extrinsic Reward-oriented' and 'Self-expression-oriented' as suggested by Rosenburg (1957). The jobs were classified as suggested by the above mentioned researcher. We are reproducing Rosenburg's table followed by our own classification of jobs (Tables 8 and 9).

Means of 'people-oriented' (PO), 'Extrinsic-Reward-oriented' (ERO) and 'Self-Expression-oriented' (SEO) were calculated. Those falling above the mean were represented by + sign and those falling below the mean were assigned - sign. Thus we had two groups (parents and their children) falling above and below the mean on the three value orientations. A 3 x 2 contingency table was formed and significant difference between the value orientation of parents and their children was computed by X^2 test (Tate, 1956). This non-parametric test is considered to be most appropriate when the data consists of frequencies in discrete categories (Siegel, 1956). Cochran (1952) has shown that the limiting power distribution of chi square tends to unity as number of observations becomes large.

Medians and quartile deviations for each occupational value for students (guidance and non-guidance schools) and parents were calculated separately. Similarly medians and quartile deviations for the preferred jobs were computed, separately for students of guidance and non-guidance school

Table 8

Occupations Ranked According to Weighted Average Score

Self-Expression-Oriented value complex		People-Oriented value complex		Extrinsic-Reward-Oriented value complex	
Occupations	Wt.Ave.	Occupations	Wt.Ave.	Occupations	Wt. Ave
Architecture	5.78	Social work	5.33	Realstate-finance	3.64
Journalism-drama	5.44	Medicine	4.12	Hotel - food	3.58
Art	5.42	Teaching	4.06	Sales-promotion	3.53
Natural Science	4.83	Social science	3.78	Law	3.34
Social science	4.70	Personnel	3.64	Advertising	3.21
Advertising-Public Relations	4.68	Government	3.41	Business (unspecified)	3.19
Engineering	4.66	Law	3.26	Personnel	3.09
Teaching	4.52	Sales-promotion	3.01	Medicine	2.58
Farming	3.99	Advertising-public relations	3.00	Engineering	2.55
Law	3.98	Realestate-finance	2.98	Government	2.55
Social work	3.81	Hotel - food	2.85	Art	2.54
Medicine	3.76	Journalism, drama	2.83	Journalism,drama	2.50
Business (unspecified)	3.71	Business (unspecified)	2.65	Architecture	2.40
Government	3.69	Architecture	2.53	Social science	2.30
Personnel	3.59	Art	2.51	Farming	2.13
Realestate finance	3.25	Farming	2.14	Natural science	2.07
Hotel - food	3.23	Engineering	1.95	Teaching	1.96
Sales promotion	3.20	Natural science	1.79	Social work	1.33
Total Weighted Av.	4.21	Total weighted Av.	3.07	Total weighted Av.	2.66

Table 9

PEOPLE-ORIENTED JOBS

1 Doctor (Medicine)
2 Dentist
3 Psychotherapist
4 Pharmacist
5 Physiotherapist
6 Radiologist
7 Medical Assistant
8 Midwife
9 Hygeinist
10 Health Assistant
11 Nurse
12 Hygiene instructor
13 Agricultural Promotor
14 Housing Promotor
15 Policeman
16 Rural Policeman
17 Clerk
18 Hotel keeper
19 Public Relations Officer
20 Hairdresser
21 Tailor
22 Dress designer
23 Air Hostess
24 Educational counsellor
25 Family Counsellor
26 Psychologist
27 Political scientst
28 Sociologist
29 Teacher
30 Religious leader(Imam)
31 Comedian
32 Stage lighting manager
33 Social Worker
34 Singer (Melodies)
35 Singer
36 Driver (Taxi, Bus)
37 Librarian

EXTRINSIC REWARD-ORIENTED JOBS

1 Veterinary surgeon
2 Military forces
3 Soldier
4 Air Force
5 Auditor
6 Banker
7 Accountant
8 Publicity officer
9 Businessman
10 Judge
11 Forest service
12 Public notary
13 Lawyer
14 Ceramic maker
15 Silversmith
16 Goldsmith
17 Wareva maker
18 Calico weaver
19 Cashmire weaver
20 Gold weaver
21 Carpet weaver
22 Glass blower

(Contd.)

SELF-EXPRESSION-ORIENTED JOBS

1 Lab.technician
2 Bacteriologist
3 Food expert
4 Chemist
5 Biologist
6 Petrochemist
7 Physician
8 Naturalist
9 Mathematician
10 Mechanical Engineer
11 Textile engineer
12 Petrochemical engineer
13 Mining engineer
14 Steel mill engineer
15 Plastics engineer
16 Metallurgist
17 Wood industries engineer
18 Industrial methods engineer
19 Road & Building engineer
20 Safety engineer
21 Hydraulic engineer
22 Civil Engineer (Planning)
23 Communications engineer
24 City engineer (buildings)
25 Shipbuilding engineer
26 Aviation engineer
27 Technician (engineer)
28 Agricultural engineer
29 Helicopter engineer
30 Soil conservation engineer
31 Weather engineer
32 Agricultural engineer (machinery)
33 Botanist
34 Plant pathologist
35 Seed and animal husbandary
36 Poultry farming
37 Park planner
38 Gardener
39 Forest service
40 Farmer
41 Cotton experimenter
42 Pilot
43 Sailor
44 Helicopter technician
45 Aviator
46 Parachutist
47 Captain (ship)
48 Diver
49 Space expert
50 Statistician
51 Computer operator
52 Translator
53 Book-keeper
54 File-keeper
55 Draftsman
56 Fireman
57 Historian
58 Geographer
59 Writer
60 Journalist
61 Reporter
62 Speaker
63 Film director
64 Sound engineer
65 Film producer
66 Dubber (films)
67 Make-up man
68 Comedian
69 Orchestra conductor
70 Musician
71 Tile maker
72 Plaster moulder
73 Carpenter
74 Enameller
75 Carver (wood)
76 Sculptor
77 Miniature maker
78 Engraver
79 Moulder
80 Archaeologist
81 Electrical Engineer
82 Radio and TV Engineer
83 Industrial Engineer (Metals)

students and parents. Quartile deviation helps in estimating the extent of variability whereas the median helps in determining the intensity of preference. Most preferred occupational values and job preferences of the groups under study were found out with the help of these statistical measures.

Chapter 3

RESULTS AND DISCUSSION

The results obtained through statistical analyses are reported in the present chapter. This will be followed by discussion.

Table I

	Hypotheses	Value of X^2	Remarks
1	Value orientation of parents would influence the value orientation of children	5.41	Insignificant
2	Value orientation of parents would influence job preference of children	26.9*	Significant
3	Students' value orientation would influence their job preference	6.927**	Significant
4	Father's occupation would influence children's job preference	12.276*	Significant
5	Family's socio-economic status would influence job preference of students	22.22*	Significant

* significant at 1% level.
** significant at 5% level.

The results reported in Table I are self-explanatory. All the hypotheses except the first one have been accepted. It

means that value orientation of parents influences the job preference of children, father's occupation and family's socio-economic status influence the job preference of children. The value orientation of parents, however, do not influence the value orientation of their children.

Table II

	Hypotheses	Value of X^2	Remarks
6	Value orientation of parents would influence the value orientation of guidance school students	4.861	Insignificant
7	Value orientation of parents would influence the value orientation of non-guidance school students	0.168	Insignificant

The results confirm our earlier findings that value orientation of parents hardly influence the value orientation of their children. This is true about guidance as well as non-guidance school students.

Table III

	Hypotheses	Value of X^2	Remarks
8	Value orientation of parents would influence job preference of guidance school students	23.249	Significant
9	Value orientation of parents would influence job preference of non-guidance school students	5.735	Insignificant

It is interesting that value orientation of parents influences job preference of guidance school students only. Such an influence on non-guidance school students was found to be insignificant.

Table IV

	Hypotheses	Value of X^2	Remarks
10	Students' (guidance school) value orientation would influence their job preference	10.385	significant
11	Non-guidance school students value orientation would influence their job preference	5.278	Insignificant

We note that the value orientation of guidance school students influences their job preference but the same is not true of their non-guidance counterparts.

Table V

	Hypotheses	Value of X^2	Remarks
12	Father's occupation would influence guidance school students' job preference	8.517	significant
13	Father's occupation would influence non-guidance school students' job preference	0.786	Insignificant
14	Family's socio-economic status would influence guidance school students' job preference	21.674	significant
15	Family's socio-economic status would influence non-guidance school students' job preference	5.057	Insignificant

Father's occupation and family's socio-economic status influence the job preferences of only the guidance school students and not the non-guidance school students.

A general trend is easily discernable when we examine Tables III to V. It is quite apparent that the guidance and non-guidance school students differ with each other. Parental influence on guidance school students is quite evident in job preferences.

A more clear picture would emerge if we examine the medians and quartiles of occupational values and job preferences of the three groups. We will first consider the occupational values and then we would take up the job preferences.

Table VI

Occupational values	Guidance students		Non-guidance students		Parents	
	M_i	Q	M_i	Q	M_i	Q
Leadership	3.08	1.94	3.71	3.51	3.75	2.59
Interest	4.45	1.55	3.88	2.19	4.33	1.43
Esteem	4.01	1.50	4.25	1.79	4.53	1.30
Security	4.04	1.55	4.25	1.85	4.58	1.04
Profit	3.53	1.45	3.63	2.41	3.66	1.47
Social service	4.66	1.13	4.73	1.15	3.47	2.13
Fame	4.20	1.61	3.54	2.16	4.14	1.48
Independence	2.63	2.02	2.85	2.33	3.00	1.88
Self-expression	4.05	1.80	3.97	2.10	4.51	1.31
Power	2.92	2.26	3.00	2.79	3.50	1.33

Perusal of Table VI impresses us with the fact that parents have higher median values for security, esteem, self-expression, interest and fame. When we take into account the variability we note that it is very high for leadership, social service and independence.

Preferred occupational values for the guidance students, selected on the basis of medians, are social service, interest, fame, self-expression and security. Similarly, for the non-guidance school students the values are social service, security, esteem, self-expression and interest.

As regards the extent of variability, it is high for power, independence and leadership (guidance group). For the non-guidance students it is higher for leadership, power, independence, profit, fame and interest. Higher quartile deviation is indicative of higher extent of disagreement between the ratings of the subjects. The occupational values arranged in order of preference are reported in TableVII.

Table VII

Guidance students	Non-guidance students	Parents
Social service	Social service	Security
Interest	Security	Esteem
Fame	Esteem	Self-expression
Self-expression	Self-expression	Interest
Security	Interest	Fame
Esteem	Leadership	Leadership
Profit	Fame	Profit
Leadership	Pfofit	Power
Power	Power	Social service
Independence	Independence	Independence

Social service is given top priority by students whereas it is rated much lower by parents. Parents prefer security most whereas guidance students rate it comparatively lower. Fame for parents and non-guidance school students occupies lower positions whereas for the guidance students it is the third preferred value. Interest has been meted out a similar treatment. Independence, for the three groups, is placed at the bottom. Esteem is held in high esteem by parents and non-guidance students whereas it is placed lower by the guidance students.

Now we present the medians and quartile deviations for job preferences of the three groups. The subjects were asked to indicate their preferences to any four jobs out of the 142 listed in the bulletin. They were to assign a rank of 1 to the most preferred job, a rank of 2 to the second most preferred one and so on. In table VIII the ten most preferred jobs arranged on the basis of medians, are expressed. It may be mentioned that scores of jobs were totally ignored by the respondents.

Medicine (doctor) has been endorsed as the most sought after profession by all the three groups. This is followed by electrical engineering, teaching, nursing, educational counselling, etc., for the guidance group. Parents prefer police service, teaching, civil and mechanical engineering, etc. Non-guidance students have opted for Imam (religious

leader), teaching, judiciary and police service. It is interesting that the profession of 'Imam' is not favoured by parents and guidance school students whereas non-guidance students have shown their preference for it. Armed forces are equally disliked by all the groups. Teaching is preferred by all the groups.

But when we take into account the quartile deviation another interesting fact emerges. Though medicine has been highly preferred by all the groups the extent of disagreement is also highest for this profession. It means that this profession is equally rated high and low by all the groups. A similar trend is noticeably for teaching. Consideration of Q values compels us to infer that no job is unequivocally preferred by any of the three groups studied. Because high Q values are indicative of greater extent of disagreement between the ratings of the subjects.

If we, however, consider only the median values then we can conclude that the preferences of parents and guidance school students resemble each other more than the preferences of the non-guidance school students. This finding lends support to our earlier finding that the parents of guidance school students tend to influence their job preference.

Discussion

Pestonjee and Akhtar (1969a) contend that "one of the important reasons why an individual prefers to go for a certain

occupation, compared to many others, is that he has a typical value system". Many investigators have tended to support this point of view (Burnstein, 1963; Pal, 1967). Personal values underlie occupational choice and attainment. But it has also been found that the values are, hardly stable specially of the school going children. Dipboye and Aderson (1959) studied occupational values of high school students. They found that the twelfth graders attached more importance to 'interesting work' and 'opportunities for advancement' than the ninth graders. No significant difference in the values of vocationally 'decided' and 'undecided', twelfth graders was found. Career satisfaction was highly valued by individuals falling in the age range 17 to 30 years (Miller, 1954). Wagman (1966) observed that the college students lay more emphasis on 'interesting work' whereas the high school samplepreferred jobs which offered 'security' and 'independence'. Interest and security has been preferred by all the three groups studied by us. Thus our findings are partially in agreement with the findings of Wagman.

Now let us discuss the occupational values of parents and students. We find that out of the five most preferred occupational values four are common. Difference is perceptible with regard to 'social service' and 'security'. Students prefer the former and parents the later. In our schools (Iran) we teach social science as a compulsory subject in which greater emphasis is laid to make one aware of one's responsibilities towards the society. Co-curricular activities are organised to inculcate a

sense of social service in the youth. These, probably, might have influenced the students. In many studies conducted on students 'social service' has been found to be the dominant occupational value.

Pestonjee and Akhtar (1969) compared occupational values and job preferences of engineering and teachers-training students. In case of engineering students, the most preferred occupational value was self-expression followed by social service and fame. Teachers-training students indicated preferences for social service, self-expression and fame. Thus both the groups preferred the same set of values. Our findings are similar to the findings of Pestonjee and Akhtar.

In another study 'social services', 'fame' and 'security' were found to be predominant occupational values of undergraduates. The first three preferred values for the postgraduate sample were 'social services', 'self-expression' and 'fame' (Pestonjee, Akhtar and Chaudhary, 1967). Regler (1963) also found 'social service' to be the dominant value of school going Indian children. She has interpreted it in terms of the Indian religious and philosophical traditions. Buford (1954) found that girls appeared to select jobs offering interesting experience and opportunities for social service. Our findings are in agreement with the research findings mentioned above. Iran too has socio-religious conditions similar in many ways to India and it is no wonder that Iranian school students have shown their preferences for social service. Social service demands selfless action and

when such an action is emphasised in religious teachings and teachings in school it is bound to have its desired effect.

As regards occupational values of parents, they seems to crave for job security. The desire for security connotes the desire for protection against unwarranted dismissal. Researches conducted on various work groups have high-lighted the desire of employees for job security (Centers, 1948; Akhtar and Pestonjee, 1969; Ganguly, 1964; Herzberg, Mausner, and Snyderman, 1959). But as the workers approach middle age they become more concerned about job security. Job security, in all probability, would be cherished whenever it would be apprehended that the employment opportunities would soon be reaching a saturation point. It should also be borne out that middle aged people (parents in this case) have witnessed rapid economic transformation of Iranian society. They cannot easily erase the memories of miseries of a few decades back. Thus the emphasis of the parents on job security is self-evident.

All the groups have rated higher self-expression, esteem and fame which are egoistic needs. As regards the egoistic needs their goal is not primarily a relation with other people but a particular view of one's self or ego. Kornhauser and Reid (1965) have observed that desires for material acquisitions, personal well-being, security, social esteem and influence are the widely shared motives. We find that all the groups prefer self-expression, fame and interest as occupational values.

As regards the job preference, all the groups have preferred

the jobs which are remunerative and have high prestige value. The parents as well as the students have opted for medicine, teaching and engineering. These professions are highly valued universally because there are cogent reasons to believe that "occupational-prestige hierarchies are similar from country to country and from subgroup to subgroup within a country" (Hodge and Siegel, 1966), but it is more true about developing countries like Iran. There is acute shortage of qualified doctors and and engineers. This could be easily gauged by the fact that hundreds of specialists in these fields are recruited every year from India and Pakistan. These professions carry greater prestige in the society. Also salaries earned are comparatively much higher. These two jobs not only guarantee good salary but they provide greater independence and job security as well as opportunity to serve the community. These jobs also bring name and fame to people.

Teaching in a way does not lag behind medicine and engineering. It has high prestige value and at the same time provides ample opportunities for social service. Thus we find that there is synchronisation between occupational values and job preferences of all the groups. It may be mentioned that the groups have preferred people oriented jobs. Our results are in complete agreement with the findings of Rosenberg (1957) who claims that "an individual who likes and wishes to work with others has a good chance (50 per cent) of selecting one of the 'helpful' occupations (teaching, social work and personnel) and an extremely slim chance (3 per cent) of choosing one of the "self-interested"

occupations (business, real-estate, finance, sales, promotions, and advertising-public relations)".

The relationship between occupational values and choices is very interesting but Rosenberg's interpretation seems to be more appropriate. He suggests that "values are not only determinants of action, but are themselves determined by actions which are patterned on the basis of one's position in society. Both values and choices tend to determine one another and both tend to change in the direction of greater mutual consistency, thereby leading to reduction of conflict". This assertion will become clear when we examine the influence of the family background on the choice of occupations.

Now let us consider the hypotheses tested by us and discuss the results obtained. The results clearly reveal that the value orientation of parents do not influence the value orientation of students. This is true about guidance as well as non-guidance school students. Parents emphasise security whereas the students prefer social service. The findings could be interpreted in terms of generation gap and the broad spectrum of changes in the society, employment market, role of education, etc.

Akhtar, Pestonjee and Khatoon (1971) have demonstrated that differences exist in occupational values of elders (university teachers) and students. They also posit that parental attitudes alone do not influence occupational values. Students generally do not have intimate knowledge of work life so they may tend to

prefer idealistic occupational values rather than the pragmatic ones. Ginsberg and his associates (1950) have observed that with the increase in age shift occurs from idealistic and high-minded occupational value to more prosaic extrinsic rewards. This combined with the acquisition of knowledge concerning social responsibilities (study of social sciences) may make 'social service' more alluring to students.

Differences between the perceptions of parents and students are bound to occur with regard to aspects of occupational values. Students who have not finally selected a profession and settled down in their choice may prefer more glittering aspects or the aspects they may visualise to be more socially acceptable. Parents, on the other hand, being more mature, having first hand experience of the job, have no alternative but to emphasise more practical aspects which directly affect the life and work of the individual. Probably, such differences have influenced the results.

Roe (1957) and the psychoanalytic writers (Steimel and Suziedelis, 1963; Bordin, Nachmann and Segal, 1963) seem to form a category of thought about important periods and influences on career behaviour. They emphasise the role of parents during early childhood in shaping of mature personality. Although none of them treat any particular period of development as crucial, they do have something to say about the sources of influence on decisions. For Holland (1966), family factors and social

institutions are highly critical in the development of personality types and occupational images as well as opportunities. Similarly, the social systems view (Caplow, 1954; Havighurst, 1964) places a heavy emphasis on family variable such as social class, education, and income, in combination with economic opportunities and social and industrial organization, as major forces which shape the individual's vocational development. To a less explicit extent, the personal values line of thought sees family and cultural factors as forces which shape values. Super and his associates (1963) advocate that the family plays a critical role in the formation of the individual's self-concept and in the provision of a context for its implementation.

The results reveal that value orientation of parents does influence the job preference of children. It is significant that the non-guidance school students are not influenced in their job preference by the value orientation of their parents. It means that this hypothesis has been confirmed only in the cases of guidance school students. The difference may be attributed to the role of the counsellor who invariably gets an opportunity to work with the students and hence influence their career choice. This may become amply clear if we look into the duties of the counsellors. The counsellors in guidance schools meet some of the parents on every Thursday. They allow sufficient margin for the wishes of the parents while preparing a schedule for the choice of courses and careers for the students. Thus the

parents value orientations are further reinforced by the counsellors which might have made the students (guidance school) to prefer the jobs which overlap with the value orientation of their parents.

As regards the value orientation of students and their job preference there seems to be significant difference between the guidance and non-guidance school students. Guidance school students generally prefer jobs on the basis of their value orientation whereas no such influence was observed in case of non-guidance school students. The only plausable explanation could be the major role played by the counsellor. Mathewson (1955) rightly believes that the counsellor plays a major role in the vocational development of an individual. Anastasi (1964) suggests that the counsellor provides information about the individual and the world of work he may aspire to enter. It includes the personal appraisal of one's interest, potentialities, intelligence, social and family resources. The councellor, according to Roe (1957), "must know about his clients role-models, self-concept, motivations, identification, concept of work and the values he intends to achieve." The counsellor equipped with these creates many alternatives for the students to choose from and want them to express their feelings and follow their interest. The guidance school counsellors and curriculum teachers emphasise the students and their personal situations, but in non-guidance schools emphasis is laid only on subjects of study, relevant text-books and fairing well in examinations. The

non-guidance school students can hardly be imagined to co-relate their abilities, interests and value orientations to the numerous job opportunities that may be available for them. Father's occupation and family's socio-economic status influences the job preference of students. But this was found to be true only for the guidance school students.

Scores of researches have advocated that father's occupation influences one's preference for a job (Porter, 1954; Krippner, 1963; Gunderson and Nelson, 1965; Clark, 1967). Children who identify with their parents and subculture develop preferences for jobs valued by their parents (McArther, 1954; Porter, 1954). Segal (1961) tries to interpret such an influence in psycho-analytical terms. The individual would conform to the wishes and values of his parents and adhere to the socially approved attitudes in order to maintain his self-esteem and his feeling of being loved. The feeling of conformity, in such cases, may dominate the vocational choice.

Social class membership and its influence on choice of career among adolescents has been amply demonstrated by Lipsett (1962). Rosenburg (1957) found that father's income was highly related to the kind of choices their children made. He also observed that "the objective factor of family income is more important than subjective class identification in determining occupational choice" (p.55). Osipow (1968) contends that "both the home and community stimulate the adolescent. Parents place pressure on students for certain choices and make available or

deny certain contingencies accordingly". Duncan (1968) has shown that the socio-economic status of the family affects the kind of occupational role attained by professionals.

When we analyse the responses of students of various income levels, we find that most (74.4%) of the students coming from the lower income group aspire to earn a higher salary than their parents. Middle and higher income group dependents (students) generally (61.3% and 79.1%, respectively) aspire to earn as much

Income group	Same as father	More than father
Upto 10,000 Rs.	25.6	74.4
From 10,000 to 20,000 Rs.	61.3	38.7
More than 20,000	79.1	20.9

as their parents. This finding lends support to the concept of upward economic striving in industrially developed countries (Beilin, 1955; Krippner, 1963; Clark, 1967).

Super (1957) in his theory of vocational development posits that the family fosters needs and shapes values. It provides opportunities for acquiring requisite information and necessary skills relevant to occupations. It has been pointed out that children who develop identification with their parents generally prefer the occupations that are valued by their parents (Lancebeau, 1956; McArthur and Stevens, 1955). Children who come from the group in which upward mobility is emphasised generally follow careers that resemble those of their fathers (Porter, 1954; Gunderson and Nelson, 1955; Jenson and Kirchner, 1955; Krippner, 1963; Clark, 1967).

The family contributes to the development of vocational preferences in other subtle ways such as religious believes, customs, traditions, and the general social environment. Super (1957) suggests that "family resources include not only intangibles such as information and contacts, but also tangibles in the form of capital and credit".

Rosenberg (1957) concludes that "there is a definite relationship between the amount of money the father currently earns and the amount the student expects to earn in future... Family economic background is clearly a very important determinant of expectations regarding one's own ultimate economic position".

We can conclude that family income seems to exert an influence on student's expectations of income, opportunities and job choices. Our results are in line with the research findings noted above.

When we review our results and interpretations we find ourselves inclined to agree with Slocum (1965) who points out that occupational decisions are not exclusively made by the individual rather his decisions are subject to the demands of the society of which he is a member. Super and Bachrach (1957) have advocated for a social systems approach which takes into account the interaction between the individual and his society to understand the career development of the individual. "The most far reaching contribution likely to result from the social systems approach to career development" asserts Osipow (1968),

"is an increasing sophistication in program development as a consequence of a greater understanding of the social forms that affect individual decision."

The findings of the present research work should be utilised by the consellors in properly designing their guidance programmes. The counsellor can hardly manage to ignore the socio-cultural environment of his students, as it has been brought to the fore by the present investigation.

There seems ample possibilities of extending the present research to other parts of Iran. Some other important variables that we could not incorporate in the present study needs consideration. Intelligence, interest and aptitudes must also be taken into account while studying occupational values and job preferences. The study of sex differences would also be exciting. Again, community characteristics and their relation to occupational values and choices should be explored.

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APPENDIX 'A'

CALCULATIONS OF X^2 TEST

GUIDANCE-STUDENT-PARENTS

People oriented (Social Service-Leadership-Fame)

C.I	f	x	fx
3- 5	36	4	144
6- 8	58	7	406
9-11	114	10	1140
12-14	105	13	1365
15-17	83	16	1328
Total	396		4383

$$\bar{x} = \frac{fx}{n} = 11.0681$$

Out of 132

Parents people oriented = 54

Children people oriented = 66

Children's value orientation

		+	-	Total	
Father's Value Orientation	P.O.	42	12	54	First Hypothesis
	SRO	27	18	45	
	SSO	26	7	33	
	Total	95	37	132	

	Father's Job Orientation	Children's Job Orientation
E.R.O.	44	31
S.E.O.	53	43
P.O.	35	58

Children's Job Orientation

		+	-	Total
Father's Job Orientation	P.O.	28	16	44
	E.R.O.	18	35	53
	S.E.O.	16	19	35
	Total	62	70	132

Out of 132 children under our investigation only 22 namely 16.66% of them have chosen the same job as their fathers.

Family's monthly income		Children's desired monthly income
Upto 10,000 Rs.	34	16
from 10,000 to 20,000	58	64
more than 20,000 Rs.	40	52

Children's desired monthly income

Family's monthly income	+	-	Total
Upto 10,000 Rs.	9	25	34
From 10,000 to 20,000 Rs.	34	24	58
More than 20,000 Rs.	32	8	40
Total	75	57	132

Parents' value orientation	Children's job orientation
E.R.O. 45	31
S.E.O. 33	43
P.O. 54	58

Children's Job Orientation

		+	-	Total
Parents' Value Orientation	PO.	38	16	54
	E.R.O.	14	31	45
	S.E.O.	8	25	33
	Total	60	72	132

Children's value orientation	Children's job orientation
E.R.O. 72	63
S.E.O. 56	83
P.O. 116	98

Children's Job Orientation

		+	-	Total
Children's Value Orientation	P.O.	44	28	72
	E.R.O.	26	30	56
	S.E.O.	85	31	116
	Total	155	89	244

GUIDANCE-STUDENTS-PARENTS

Self-Expression Oriented (Self-expression-Independence-Esteem)

C.I	f	x	fx
3- 5	33	4	132
6- 8	88	7	616
9-11	99	10	990
12-14	105	13	1365
15-17	71	16	1136
Total	396		4239

$$\bar{X} = \frac{fx}{n} = \frac{4239}{396} = 10.70$$

Out of 132 parents

Parents self-expression oriented = 33

Out of 132 children

Children self-expression oriented = 34

GUIDANCE-STUDENTS-PARENTS

Extrinsic-Reward Oriented (Profit-Security-Power)

C.l	f	x	fx
3- 5	48	4	192
6- 8	75	7	525
9-11	122	10	1220
12-14	102	13	1326
15-17	46	16	736
Total	396		3999

$$\bar{X} = \frac{fx}{n} = \frac{3999}{396} = 10.098$$

Out of 132 parents

Parents Extrinsic-Reward oriented = 45

Children Extrinsic-Reward oriented = 32

FIRST HYPOTHESIS

	+	-	Total
P.O.	42.00 38.86	12.00 15.14	54
E.R.O.	27.00 32.39	18.00 12.61	45
S.E.O.	26.00 23.75	7.0 9.25	23
Total	95.00	37.00	132

$$x^2 = \left(\frac{42 - 38.86}{38.86}\right)^2 + \left(\frac{12 - 15.14}{15.14}\right)^2 + \left(\frac{27 - 32.39}{32.39}\right)^2 + \left(\frac{18 - 12.61}{1261}\right)^2$$

$$\left(\frac{26 - 23.75}{23.75}\right)^2 + \left(\frac{7-9.25}{9.25}\right)^2$$

$$x^2 = 0.253 + 0.651 + 0.897 + 2.30 + 0.213 + 0.547$$

$$x^2 = 4.861$$

D.F. = 3-1 = 2

SECOND HYPOTHESIS

	+	-	Total
P.O.	38.00 24.54	16.00 29.45	54
E.R.O.	14.00 20.45	31.00 24.54	45
S.E.O.	8.00 15.00	25.00 18.00	33
Total	60.00	72.00	132

$$x^2 = \left(\frac{38 - 24.54}{24.54}\right)^2 + \left(\frac{16 - 29.45}{29.45}\right)^2 + \left(\frac{14 - 20.45}{20.45}\right)^2 + \left(\frac{31 - 24.5}{24.54}\right.$$

$$\left(\frac{8 - 15}{15}\right)^2 + \left(\frac{25 - 18}{18}\right)^2$$

$$x^2 = 7.383 + 6.143 + 2.034 + 1.70 + 3.267 + 2.722$$

$$x^2 = 23.249$$

THIRD HYPOTHESIS

	+	-	Total
P.O.	44.00 45.74	28.00 26.26	72
E.R.O.	26.00 35.57	30.00 20.43	56
S.E.O.	85.00 73.69	31.00 42.31	116
Total	115.00	89.00	244

$$x^2 = \left(\frac{44 - 45.74}{45.74}\right)^2 + \left(\frac{28 - 26.26}{28.00}\right)^2 + \left(\frac{26 - 35.57}{35.57}\right)^2 + \left(\frac{30 - 20.43}{20.43}\right)^2 +$$

$$\left(\frac{85 - 73.69}{73.69}\right)^2 + \left(\frac{31.0 - 42.31}{42.31}\right)^2$$

$$x^2 = 0.066 + 0.115 + 2.57 + 2.885 + 1.736 + 2.023$$

$$x^2 = 10.395$$

FOURTH HYPOTHESIS

	+	-	Total
P.O.	28.00 20.67	16.00 23.33	44
E.R.O.	18.00 24.89	34.00 28.11	53
S.E.O.	16.00 16.44	19.00 18.56	35
Total	62.00	70.00	132

$$x^2 = \left(\frac{28 - 20.67}{20.67}\right)^2 + \left(\frac{16 - 23.33}{23.33}\right)^2 + \left(\frac{18 - 24.89}{24.89}\right)^2 + \left(\frac{35 - 28.11}{28.11}\right)^2 + \left(\frac{16 - 16.44}{16.44}\right)^2 + \left(\frac{19 - 18.56}{18.56}\right)^2$$

$$x^2 = 2.599 + 2.302 + 1.907 + 1.688 + 0.011 + 0.01$$

$$x^2 = 8.517$$

FIFTH HYPOTHESIS

	+	-	Total
Upto 10,000 Rs.	9.00 19.32	25.00 14.68	34
From 10,000 to 20,000 Rls.	34.00 32.95	24.00 25.05	58
More than 20,000 Rs.	32.00 22.73	8.00 17.27	40
Total	75.00	57.00	132

$$x^2 = \left(\frac{9-19.32}{19.32}\right)^2 + \left(\frac{25-14.68}{14.68}\right)^2 + \left(\frac{34-32.95}{32.95}\right)^2 + \left(\frac{24-25.05}{25.05}\right)^2 + \left(\frac{32-22.73}{22.73}\right)^2 + \left(\frac{8-17.27}{17.27}\right)^2$$

$$x^2 = 5.512 + 7.255 + .033 + 0.044 + 3.86 + 4.97$$

$$x^2 = 21.674$$

First Hypothesis

NON-GUIDANCE STUDENTS

The value orientation of parent would influence the value orientation of children.

	Parent's Value Orientation	Children's Value Orientation
ERO	7	28
SEO	11	21
PO	12	29
Total	30	78

Children's Value

Children / Father	+	-	Total
PO	8.0 7.6	4.0 4.4	12
ERO	4.0 4.43	3.0 2.56	7
SEO	7.00 6.97	4.0 4.03	11
Total	19.00	11.00	30

$$x^2 = \left(\frac{(8-7.6)^2}{7.6}\right) + \left(\frac{(4-4.4)^2}{4.4}\right) + \left(\frac{(4.4.4)^2}{4.4}\right) + \left(\frac{(3-2.56)^2}{2.56}\right) +$$

$$\left(\frac{(7-6.97)^2}{6.97}\right) + \left(\frac{(4-4.03)^2}{4.03}\right)$$

$$x^2 = 0.021 + 0.036 + 0.036 + 0.075 + 0.0001 + 0.0002$$

$$x^2 = 0.1683$$

Second Hypothesis

NON-GUIDANCE STUDENTS

The value orientation of parent would influence job preference of children.

	Parent's Value Orientation	Children's Job Orientation
ERO	7	15
SRO	11	1
PO	12	42

Children / Father	+	-	Total
PO	10.0 7.2	2.0 4.8	12
ERO	2.0 4.2	5.0 2.8	7
SRO	6.0 6.0	5.0 4.4	11
Total	18.0	12.0	30

$$x^2 = \frac{(10-7.2)^2}{7.2} + \frac{(2-4.8)^2}{4.8} + \frac{(2-4.2)^2}{4.2} + \frac{(5-2.8)^2}{2.8} + \frac{(6-6.6)^2}{6.6} + \frac{(6-6.6)^2}{6.6}$$

$$x^2 = 1.09 + 1.63 + 1.15 + 1.73 + 0.054 + 0.091$$

$$x^2 = 5.735$$

Third Hypothesis

NON-GUIDANCE STUDENTS

Children's value orientation would influence their job preference.

	Children's Value orientation	Children's Job orientation
ERO	21	15
SEO	29	31
PO	28	42

Job Values	+	-	Total
PO	24.00 20.10	4.00 7.9	28
ERO	15.00 15.07	6.00 5.92	21
SEO	17.00 20.82	12.00 8.18	29
Total	56.00	22.00	78

$$x^2 = \left(\frac{(24-20.10)^2}{20.10}\right) + \left(\frac{(4-7.9)^2}{7.9}\right) + \left(\frac{(15-15.07)^2}{15.07}\right) + \left(\frac{(6-5.92)^2}{5.92}\right) + \left(\frac{(17-20.82)^2}{20.82}\right) + \left(\frac{(12-8.18)^2}{8.18}\right)$$

$$x^2 = 0.76 + 1.93 + 0.0003 + 0.108 + 0.70 + 1.78$$

$$x^2 = 5.278$$

Fourth Hypothesis

NON-GUIDANCE STUDENTS

Father's occupation would influence children's job preference.

Father's Job orientation		Children's Job orientation
ERO	16	15
SEO	4	31
PO	10	42

Total	+	-	Total
PO	8.0 7.0	2.0 3.0	10
ERO	2.0 2.8	2.0 1.2	4
SEO	11.0 11.2	5.0 4.8	16
Total	21.0	9.0	30

$$x^2 = \left(\frac{(8-7)^2}{7}\right) + \left(\frac{(2-3)^2}{3}\right) + \left(\frac{(2-2.8)^2}{2.8}\right) + \left(\frac{(2-1.2)^2}{1.2}\right) + \left(\frac{(11-11.2)^2}{11.2}\right) + \left(\frac{(5-4.8)^2}{4.8}\right)$$

$$x^2 = 0.143 + 0.333 + 0.229 + 0.033 + 0.004 + 0.044$$

$$x^2 = 0.786$$

Fifth Hypothesis

NON-GUIDANCE STUDENTS

Family's socio-economc status would influence job prefesences.

	Family's monthly income	Children's desired monthly income
Upto 10,000 Rs.	5	8
From 10,000 to 20,000 Rials	17	48
More than 20,000 Rials	8	22

Children / Family	+	-	Total
Up to 10,000	1.00 3.17	4.0 1.8	5
From 10,000 to 20,000	12.00 10.77	5.0 6.23	17
More than 20,000	6.00 5.06	2.0 2.93	8
Total	19.00	11.00	30

$$x^2 = \left(\frac{(1-3.17)^2}{3.17}\right) + \left(\frac{(4-1.8)^2}{1.8}\right) + \left(\frac{(12-10.77)^2}{10.77}\right) + \left(\frac{(5-6.23)^2}{6.23}\right) + \left(\frac{(6-5.06)^2}{5.06}\right) + \left(\frac{(2-2.93)^2}{2.93}\right)$$

$$x^2 = 1.49 + 2.69 + 0.164 + 0.243 + 1.75 + 0.295$$

$$x^2 = 5.057$$

First Hypothesis

(Combination)

The value orientation of parent would influence the value orientation of children.

	Parent's value orientation	Children's value orientation
ERO	52	93
SRO	44	85
PO	66	144

Father's Value orientation	Children's value orientation +	Children's value orientation -	Total
P.O.	50.00 46.44	16.00 19.55	66
E.R.O.	31.00 36.6	21.00 15.4	52
S.E.O.	33.00 30.96	11.00 13.00	44
Total	114.00	48.00	162

$$x^2 = \left(\frac{50-46.44}{46.44}\right)^2 + \left(\frac{16-19.55}{19.55}\right)^2 + \left(\frac{31-36.6}{36.6}\right)^2 + \left(\frac{21-15.4}{15.4}\right)^2 + \left(\frac{33-30.96}{30.96}\right)^2 + \left(\frac{11-13}{13}\right)^2$$

$$x^2 = 0.28 + 0.64 + 2.03 + 1.29 + 0.31 + 0.86$$

$$x^2 = 5.41$$

Second Hypothesis

(Combination)

The value orientation of parent would influence job preference of children.

	Parent's value orientation	Children's job preference
ERO	52	46
SEO	44	74
PO	66	100

Children's job Orientation

Parent's value orientation	+	-	Total
P.O.	48.00 31.8	18.00 34.2	66
E.R.O.	16.00 25.0	36.00 26.96	52
S.E.O.	14.00 21.19	30.00 22.80	44
Total	78.00	84.00	162

$$x^2 = \left(\frac{48-31.8}{31.8}\right)^2 + \left(\frac{18-34.2}{34.2}\right)^2 + \left(\frac{16-25}{25}\right)^2 + \left(\frac{36-26.96}{26.96}\right)^2 + \left(\frac{14-21.19}{21.19}\right)^2 + \left(\frac{30-22.8}{22.8}\right)^2$$

$$x^2 = 8.25 + 7.67 + 3.24 + 3.09 + 2.44 + 2.27$$

$$x^2 = 26.9$$

Third Hypothesis

(Combination)

Children's value orientation would influence their job preference.

	Children's Value orientation	Children's Job orientation
ERO	93	78
SEO	85	114
PO	144	140

Children's Value orientation		Children's Job orientation +	Children's Job orientation -	Total
	P.O.	68.00 65.20	32.00 34.47	100
	E.R.O.	41.00 50.46	36.00 26.54	77
	S.E.O.	102.00 95	43.00 49.98	145
	Total	211.00	111.00	322

$$x^2 = \left(\frac{68-65.2}{65.2}\right)^2 + \left(\frac{32-34.47}{34.47}\right)^2 + \left(\frac{41-50.46}{50.46}\right)^2 + \left(\frac{36-26.54}{26.54}\right)^2 + \left(\frac{102-95}{95}\right)^2 + \left(\frac{43-49.98}{49.98}\right)^2$$

$$x^2 = 0.12 + .177 + 1.77 + 3.37 + 0.52 + 0.97$$

$$x^2 = 6.927$$

Fourth Hypothesis

(Combination)

Father's occupation would influence children's job preference.

	Father's Job orientation	Children's job orientation
ERO	60	46
SEO	57	74
PO	45	100

Children's Job Preference

Parent's Job orientation	+	-	Total
P.O.	36.00 27.67	18.00 26.33	54
E.R.O.	20.00 29.2	37.00 27.8	57
S.E.O.	27.00 26.13	26.00 24.87	51
Total	83.00	79.00	162

$$x^2 = \left(\frac{36-27.67}{27.67}\right)^2 + \left(\frac{18-26.33}{26.33}\right)^2 + \left(\frac{20-29.2}{29.2}\right)^2 + \left(\frac{37-27.8}{27.8}\right)^2 + \left(\frac{27-26.13}{26.13}\right)^2 + \left(\frac{26-24.87}{24.87}\right)^2$$

$$x^2 = 2.51 + 2.63 + 2.898 + 4.16 + 0.028 + 0.05$$

$$x^2 = 12.276$$

Fifth Hypothesis

(Combination)

Family's socio-economic status would influence job preference.

	Family's Monthly income	Children's desired monthly income
Upto 10,000 Rials	39	24
From 10,000 to 20,000 Rs.	75	112
More than 20,000 Rs.	48	74

Children's desired income

Family's Monthly income		+	-	Total
	Upto 10,000 rials	10.00 22.62	29.00 16.37	39
	From 10,000 to 20,000	46.00 43.5	29.00 31.48	75
	More than 20,000	38.00 27.85	10.00 20.15	48
	Total	94.00	68.00	162

$$x^2 = \left(\frac{10-22.62}{22.62}\right)^2 + \left(\frac{29-16.37}{16.37}\right)^2 + \left(\frac{46-43.5}{43.5}\right)^2 + \left(\frac{29-31.48}{31.48}\right)^2 + \left(\frac{38-27.85}{27.85}\right)^2 + \left(\frac{10-20.15}{20.15}\right)^2$$

$$x^2 = 7.04 + 9.74 + 0.14 + 0.195 + 0.0008 + 5.11$$

$$x^2 = 22.22$$

Non-Guidance - Interest

X	f	F
1	8	8
2	10	18
3	13	31
4	21	52
5	26	78

N = 78
N/2 = 39
l = 3.50
f = 21
F = 31
i = 1

$M_1 = 3.88$ $Q = 2.14$

$M_1 = l + (\frac{N/2 - F}{f})i$

$M_1 = 3.50$

$M_1 = 3.88$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 78
.25N = 19.50
l = 2.50
f = 13
F = 18
i = 1

$Q_1 = 2.50 + (\frac{19.50 - 18}{13})$

$Q_1 = 2.61$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 78
.75N = 58.50
l = 4.50
f = 26
F = 52
i = 4.50

$Q_3 = 4.50 + (\frac{58.50 - 52}{26})1$

$Q_3 = 4.75$

$Q = Q_3 - Q_1$

$Q = 4.75 - 2.61 = 2.14$

Non-Guidance - Esteem

X	f	F
1	4	4
2	7	11
3	13	24
4	20	44
5	34	78

N = 78
N/2 = 39
i = 3.50
f = 20
F = 24
i = 1

$M_1 = 4.25$ Q = 1.77

$M_1 = 1 + (\frac{N/2-F}{f})i$

$M_1 = 3.50$

$M_1 = 4.25$

$Q_1 = 1 + (\frac{.25N-F}{f})\,i$

N = 78

.75N = 19.50

i = 2.50

f = 13

F = 11

i = 1

$Q_1 = 2.50 + (\frac{19.50-11}{13})1$

$Q_1 = 3.13$

$Q_3 = 1 + (\frac{.75N-F}{f})1$

N = 78

.75N = 58.50

i = 4.50

f = 34

F = 44

i = 1

$Q_3 = 4.50 + (\frac{58.50-44}{34})1$

$Q_3 = 4.92$

$Q = Q_3 - Q_1$

$Q = 4.92 - 3.15 = 1.77$

Non-Guidance - Independents

X	f	F
1	16	16
2	17	33
3	17	50
4	16	66
5	12	78

N = 78
N/2 = 39
l = 2.50
f = 17
F = 33
i = 1

$M_i = 2.85$ Q = 2.33

$M_i = 1 + (\frac{N/2-F}{f})i$

$M_i = 2.50 + (\frac{39-33}{17})1$

$M_i = 2.85$

$Q_1 = 1 + (\frac{.25N-F}{f})i$

N = 78

.25N = 19.50

l = 1.50

f = 17 $Q_1 = 1.50 + (\frac{19.50-16}{17})1$

F = 16 $Q_1 = 1.70$

i = 1

$Q_3 = 1 + (\frac{.75N-F}{f})i$

N = 78

.75N = 58.50

l = 3.50

f = 16 $Q_3 = 3.50 + (\frac{58.50-50}{16})1$

F = 50 $Q_3 = 4.03$

i = 1

$Q = Q_3 - Q_1$

$Q = 4.03 - 1.70 = 2.33$

Non-Guidance - Self-Expression

x	f	F
1	8	8
2	9	17
3	12	29
4	21	50
5	28	78

N = 78
N/2 = 39
l = 3.50
f = 21
F = 29
i = 1

$M_1 = 3.97$ $\quad Q = 2.10$

$M_1 = l + (\frac{N/2 - F}{f})i$

$M_1 = 3.50 + (\frac{39-29}{21})1$

$M_1 = 3.97$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 78
.25N = 19.50
l = 2.50
f = 12
F = 17
i = 1

$Q_1 = 2.50 + (\frac{19.50-17}{12})1$

$Q_1 = 2.70$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 78
.75N = 58.50
l = 4.50
f = 28
F = 50
i = 1

$Q_3 = 4.50 + (\frac{58.50-50}{28})1$

$Q_3 = 4.80$

$Q = Q_3 - Q_1$

$Q = 4.80 - 2.70 = 2.10$

Non-Guidance - Profit

X	f	F
1	13	13
2	8	21
3	16	37
4	16	53
5	25	78

N = 78
N/2 = 39
l = 3.50
f = 16
F = 37
i = 1

$M_1 = 3.63$ $\quad Q = 2.41$

$M_1 = 1 + (\frac{N/2-F}{f})i$

$M_1 = 3.50 + (\frac{39-37}{16})1$

$M_1 = 3.63$

$Q_1 = 1 + (\frac{.25N-F}{f})i$

N = 78

.25N = 19.50

l = 1.50

f = 8 $\quad Q_1 = 1.50 + (\frac{19.50-13}{8})1$

F = 13 $\quad Q_1 = 2.31$

i = 1

$Q_3 = 1 + (\frac{.75N-F}{f})i$

N = 78

.75N = 58.50

l = 4.50

f = 25 $\quad Q_3 = 4.50 + (\frac{58.50-53}{25})1$

F = 53 $\quad Q_3 = 4.72$

i = 1

$Q = Q_3 - Q_1$

$Q = 4.72 - 2.31 = 2.41$

Non-Guidance - Security

X	f	F
1	5	5
2	5	10
3	16	26
4	17	43
5	35	87

N = 78
N/2 = 39
l = 3.50
f = 17
F = 26
i = 1

$M_1 = 4.26$ $\quad Q = 1.85$

$M_1 = l + (\frac{N/2 - F}{f})i$

$M_1 = 3.50 + (\frac{39-26}{17})$

$M_1 = 4.26$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 78

.25N = 19.50

l = 2.50

f = 16

F = 10

i = 1

$Q_1 = 2.50 + (\frac{19.50-10}{16})1$

$Q_1 = 3.50$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 78

.75N = 58.50

l = 4.50

f = 35

F = 43

i = 1

$Q_3 = 4.50 + (\frac{58.50-43}{35})1$

$Q_3 = 4.94$

$Q = Q_3 - Q_1$

$Q = 4.94 - 3.09 = 1.85$

Non-Guidance - Fang

X	f	F
1	11	11
2	11	22
3	16	38
4	22	60
5	18	78

N = 78
N/2 = 39
l = 3.50
f = 22
F = 38
i = 1

$M_i = 3.54$ $\quad Q = 2.16$

$M_i = l + (\frac{N/2-F}{f})i$

$M_i = 3.50 + (\frac{39-38}{22})1$

$M_i = 3.54$

$Q_1 = l + (\frac{.25N-F}{f})i$

N = 78
.25N = 19.50
l = 1.50
f = 11
F = 11
i = 1

$Q_1 = 1.50 + (\frac{19.50-11}{11})1$

$Q_1 = 2.27$

$Q_3 = l + (\frac{.75N-F}{f})i$

N = 78
.75N = 58.50
l = 3.50
f = 22
F = 38
i = 1

$Q_3 = 3.50 + (\frac{58.50-38}{22})1$

$Q_3 = 4.43$

$Q = Q_3 - Q_1$

$Q = 4.43 - 2.27 = 2.16$

Non-Guidance - Social Service

X	f	F
1	7	7
2	2	9
3	4	13
4	14	27
5	51	78

N = 78
N/2 = 39
l = 4.50
f = 51
F = 27
i = 1

$M_i = 4.73$ $\quad Q = 1.15$

$M_i = l + (\frac{N/2 - F}{f})i$

$M_i = 4.50 + (\frac{39-27}{51})1$

$M_i = 4.73$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 78

.25N = 19.50

l = 3.50

f = 14 $\quad Q_1 = 3.50 + (\frac{19.50-13}{14})$

F = 13 $\quad Q_1 = 3.96$

i = 1

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 78

.75N = 58.50

l = 4.50

f = 51 $\quad Q_3 = 4.50 + (\frac{58.50-27}{51})1$

F = 27 $\quad Q_3 = 5.11$

i = 1

$Q = Q_3 - Q_1$

$Q = 5.11 - 3.96 = 1.15$

Non-Guidance - Power

X	f	F
1	18	18
2	14	32
3	14	46
4	14	60
5	18	78

N = 78
N/2 = 39
l = 2.50
f = 14
F = 32
i = 1

$M_1 = 3.00$ Q = 2.79

$M_1 = l + (\frac{N/2-F}{f})i$

$M_1 = 2.50+(\frac{39-32}{14})1$

$M_1 = 3.00$

$Q_1 = l + (\frac{.25N-F}{f})i$

N = 78
.25N = 19.50
l = 1.50
f = 14
F = 18
i = 1

$Q_1 = 1.50+(\frac{19.50-18}{14})1$

$Q_1 = 1.60$

$Q_3 = l + (\frac{.75N-F}{f})i$

N = 78
.75N = 58.50
l = 3.50
f = 14
F = 46
i = 1

$Q_3 = 3.50+(\frac{58.50-46}{14})1$

$Q_3 = 4.39$

$Q = Q_3 - Q_1$

Q = 4.39-1.60 = 2.79

Non-Guidance - Leadership

X	f	F
1	10	10
2	12	22
3	14	36
4	14	50
5	28	78

N = 78
N/2 = 39
l = 3.50
f = 14
F = 36
i = 1

$M_1 = 3.71$ $\quad Q = 3.51$

$M_1 = l+(\frac{N/2-F}{f})i$

$M_1 = 3.50+(\frac{39-36}{14})1$

$M_1 = 3.71$

$Q_1 = l +(\frac{.25N-F}{f})i$

N = 78

.25N = 19.50

l = 0.50

f = 12 $\quad Q_1=0.50+(\frac{19.50-10}{12})1$

F = 10 $\quad Q_1 = 1.29$

i = 1

$Q_3 = l +(\frac{.75N-F}{f})i$

N = 78

.75N = 58.50

l = 4.50

f = 28 $\quad Q_3=4.50+(\frac{58.50-50}{28})1$

F = 50 $\quad Q_3 = 4.80$

i = 1

$Q = Q_3 - Q_1$

$Q = 4.80-1.29 = 3.51$

Guidance-Esteem

X	f	F
1	3	3
2	18	121
3	55	76
4	89	165
5	79	244

N = 244
N/2 = 122
l = 3.50
f = 89
F = 76
i = 1

$M_i = 4.01$ Q = 1.50

$M_i = l + (\frac{N/2 - F}{f})\, i$

$M_i = 3.50 + (\frac{122-76}{89})\, 1$

$M_i = 4.01$

$Q_1 = l + (\frac{.25N - F}{f})\, i$

N = 244
.25N = 61
l = 2.50
f = 55
F = 21
i = 1

$Q_1 = 2.50 + (\frac{61-21}{55})1$

$Q_1 = 3.22$

$Q_3 = l + (\frac{.75N - F}{f})\, i$

N = 244
.75N = 183
l = 4.50
f = 79
F = 165
i = 1

$Q_3 = 4.50 + (\frac{183-165}{79})1$

$Q_3 = 4.72$

$Q = Q_3 - Q_1$

$Q = 4.72 - 3.22 = 1.50$

Guidance-Interest

X	f	F
1	2	2
2	17	19
3	47	66
4	69	135
5	109	244

N = 244
N/2 = 122
l = 3.50
f = 69
F = 66
i = 1

M_i = 4.45 Q = 1.55

$M_i = l + (\frac{N/2 - F}{f})\, i$

$M_i = 3.50 + (\frac{122-66}{69})1$

$M_i = 4.45$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 244

.25N = 61

l = 2.50

f = 47

F = 19

i = 1

$Q_1 = 2.50 + (\frac{61-19}{47})1$

$Q_1 = 3.39$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 244

.75N = 183

l = 4.50

f = 109

F = 135

i = 1

$Q_3 = 4.50 + (\frac{183-135}{109})1$

$Q_3 = 4.94$

$Q = Q_3 - Q_1$

$Q = 4.94 - 3.39 = 1.55$

Guidance-Independence

X	f	F
1	46	46
2	67	113
3	69	182
4	39	221
5	23	244

N = 244
N/2=122
l = 250
f = 69
F = 113
i = 1

M_i = 2.63 Q = 2.02

$M_i = l + (\frac{N/2 - F}{f}) i$

$M_i = 2.50 + (\frac{122-113}{69}) 1$

M_i = 2.63

$Q_1 = l + (\frac{.25N - F}{f}) i$

N = 244
.25N = 61
l = 1.50
f = 67
F = 46
i = 1

$Q_1 = 1.50 + (\frac{61-46}{64}) 1$

Q_1 = 1.73

$Q_3 = 1 + (\frac{.75N - F}{f}) i$

N = 244
.75N= 183
l = 3.50
f = 39
F = 182
i = 1

$Q_3 = 3.50 + (\frac{183-182}{39}) 1$

Q_3 = 3.75

$Q = Q_3 - Q_1$

Q = 3.75-1.73 = 2.02

Guidance - Fame

X	f	F
1	15	15
2	17	32
3	37	69
4	75	144
5	100	244

N = 244
N/2 = 122
l = 3.50
f = 75
F = 69
i = 1

$M_1 = 4.20$ $\quad Q = 1.61$

$M_1 = l + (\frac{N/2 - F}{f})i$

$M_1 = 3.50 + (\frac{122-69}{75})1$

$M_1 = 4.20$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 244
.25N = 61
l = 2.50
f = 37
F = 32
i = 1

$Q_1 = 2.50 + (\frac{61-32}{37})1$

$Q_1 = 3.28$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 244
.75N = 183
l = 4.50
f = 100
F = 144
i = 1

$Q_3 = 4.50 + (\frac{183-144}{100})1$

$Q_3 = 4.89$

$Q = Q_3 - Q_1$

$Q = 4.89 - 3.28 = 1.61$

Guidance - leadership

X	f	F
1	34	34
2	45	79
3	74	153
4	55	208
5	36	244

N = 244
N/2 = 122
l = 2.50
f = 74
F = 79
i = 1

$M_1 = 3.08$ $Q = 1.94$

$M_1 = l + (\frac{N/2 - F}{f})i$

$M_1 = 2.50 + (\frac{122 - 79}{74})1$

$M_1 = 3.08$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 244
.25N = 61
l = 1.50
f = 45
F = 34
i = 1

$Q_1 = 1.50 + (\frac{61 - 34}{45})1$

$Q_1 = 2.10$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 244
.75N = 183
l = 3.50
f = 45
F = 34
i = 1

$Q_3 = 3.50 + (\frac{183 - 153}{55})1$

$Q_3 = 4.04$

$Q = Q_3 - Q_1$

$Q = 4.0 - 2.10 = 1.94$

Guidance - Power

X	f	F
1	47	47
2	48	95
3	64	159
4	43	202
5	42	244

N = 244
N/2 = 122
l = 2.50
f = 64
F = 95
i = 1

$M_1 = 2.92$ $\quad Q = 2.26$

$M = 1 + (\frac{N/2 - F}{f})i$

$M_1 = 2.50 + (\frac{122 - 95}{64})1$

$M_1 = 2.92$

$Q_1 = 1 + (\frac{.25N - F}{f})i$

N = 244
.25N = 61
l = 1.50
f = 48
F = 47
i = 1

$Q_1 = 1.50 + (\frac{61 - 47}{48})1$

$Q_1 = 1.79$

$Q_3 = 1 + (\frac{.75N - F}{f})i$

N = 244
.75N = 183
l = 3.50
f = 43
F = 159
i = 1

$Q_3 = 3.50 + (\frac{183 - 159}{43})1$

$Q_3 = 4.05$

$Q = Q_3 - Q_1$

$Q = 4.05 - 1.79 = 2.26$

Guidance-Profit

X	f	F
1	12	12
2	22	34
3	85	119
4	84	2.3
5	41	244

N = 244
N/2 = 122
l = 3.50
f = 84
F = 119
i = 1

$M_1 = 3.53$ $\quad Q = 1.45$

$M_1 = l + (\frac{N/2 - F}{f})i$

$M_1 = 3.50 + (\frac{122-119}{84})1$

$M_1 = 3.53$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 244
.25N = 61
l = 2.50
f = 85
F = 34
i = 1

$Q_1 = 2.50 + (\frac{61-34}{85})1$

$Q_1 = 2.81$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 244
.75N = 183
l = 3.50
f = 84
F = 119
i = 1

$Q_3 = 3.50 + (\frac{183-119}{84})1$

$Q_3 = 4.26$

$Q = Q_3 - Q_1$

$Q = 4.26 - 2.81 = 1.45$

Guidance - Security

X	f	F
1	8	8
2	14	22
3	54	76
4	84	160

N = 244
N/2 = 122
l = 3.50
f = 84
F = 76
i = 1

$M_i = 4.04$ $\quad Q = 1.55$

$M_i = l + (\frac{N/2-F}{f})i$

$M_i = 3.50+(\frac{122-76}{84})1$

$M_i = 4.04$

$Q_1 = l + (\frac{.25N-F}{f})i$

N = 244
.25N = 61
l = 2.50
f = 54
F = 22
i = 1

$Q_1=2.50+(\frac{61-22}{54})1$

$Q_1 = 3.22$

$Q_3 = l +(\frac{.75N-F}{f})i$

N = 244
.75N = 183
l = 4.50
f = 84
F = 160
i = 1

$Q_3=4.50+(\frac{183-160}{84})$

$Q_3 = 4.77$

$Q = Q_3 - Q_1$

$Q = 4.77-3.22 = 1.55$

Guidance Self-expression

X	f	F
1	6	6
2	23	39
3	46	75
4	85	160
5	84	244

N = 244
N/2 = 122
l = 3.50
f = 3.50
F = 75
i = 1

$M_1 = 4.05$ Q = 1.80

$M_1 = +(\frac{N/2-F}{f})i$

$M_1 = 3.50 +(\frac{122-75}{85})1$

$M_1 = 4.05$

$Q_1 = 1 +(\frac{.25N-F}{f})$

N = 244
.25 N = 61
l = 2.50
f = 46
F = 39
i = 1

$Q_1 = 2.50+(\frac{61-39}{46})1$

$Q_1 = 2.97$

$Q_3 = 1 + (\frac{.75N-F}{f})i$

N = 244
.75N = 183
l = 4.50
f = 84
F = 160
i = 1

$Q_3 = 4.50+(\frac{183-160}{84})1$

$Q_3 = 4.77$

$Q = Q_3 - Q_1$

$Q = 4.77 - 2.97 = 1.80$

Guidance - Social Service

x	f	F
1	0	0
2	12	12
3	19	31
4	66	99
5	145	244

N = 244
N/2 = 122
l = 4.50
f = 145
F = 99
i = 1

$M_i = 4.66$ $Q = 1.13$

$M_i = l + (\frac{N/2 - F}{f})i$

$M_i = 4.50 + (\frac{122-99}{145})1$

$M_i = 4.66$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 244
.25N = 61
l = 350
f = 66
F = 31
i = 1

$Q_1 = 3.50 + (\frac{61-31}{66})1$

$Q_1 = 3.94$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 244
.75N = 183
l = 4.50
f = 145
F = 99
i = 1

$Q_3 = 4.50 + (\frac{183-99}{145})1$

$Q_3 = 5.07$

$Q = Q_3 - Q_1$

$Q = 5.07 - 3.94 = 1.13$

Parent Esteem

X	f	F
1	0	0
2	8	8
3	21	29
4	45	74
5	78	152

$M_1 = 4.53 \qquad Q = 1.30$

$M_1 = 1 + (\frac{N/2-F}{f})\, i$

$N = 152$

$N/2 = 76$

$1 = 4.50$

$f = 78$

$f = 74$

$i = 1$

$M_1 = 4.50+(\frac{76-74}{78})1$

$M_1 = 4.53$

$Q_1 = 1 + (\frac{.25N-F}{f})i$

$N = 152$

$.25N = 38$

$1 = 3.50$

$f = 45$

$F = 29$

$i = 1$

$Q_1=3.50+(\frac{38-25}{45})1$

$Q_1=3.70$

$Q_3 = 1 + (\frac{0.75N-F}{f})$

$N = 1.52$

$.75N = 114$

$1 = 4.50$

$f = 78$

$F = 74$

$i = 1$

$Q_3=4.50 + (\frac{114-74}{78})\, 1$

$Q_3 = 5.0$

$Q = Q_3 - Q_1$

$Q = 5.00-3.70 = 1.30$

Parent Independence

X	f	F
1	18	18
2	34	52
3	49	101
4	28	129
5	23	152

N = 152
N/2 = 76
l = 2.50
f = 49
F = 52
i = 1

$M_1 = 3.00$ $\quad Q = 1.88$

$M_1 = l + (\frac{N/2-F}{f})\, i$

$M_1 = 250 + (\frac{76-52}{49})\, 1$

$M_1 = 3.00$

$Q_1 = l + (\frac{.25N-F}{f})\, i$

N = 152

.25N = 38

l = 1.50

f = 34

F = 18

i = 1

$Q_1 = 1.50 + (\frac{38-18}{34})1$

$Q_1 = 2.08$

$Q_3 = l + (\frac{.75N-F}{f})\, i$

N = 152

.75N = 114

l = 3.50

f = 28

F = 101

i = 1

$Q_3 = 3.50 + (\frac{114-101}{28})\, 1$

$Q_3 = 3.96$

$Q = Q_3 - Q_1$

$Q = 3.96 - 2.08 = 1.88$

Parent Interest

X	f	F
1	5	5
2	14	19
3	18	37
4	47	84
5	68	152

N = 152
N/2 = 76
l = 3.50
f = 47
F = 37
i = 1

$M_i = 4.35$ $\quad Q = 1.43$

$M_i = l + (\frac{N/2-F}{f})\, i$

$Q_1 = l + (\frac{.25N-F}{f})i$

N = 152
.25N = 38
l = 3.50
f = 47
F = 37
i = 1

$Q_1 = 3.50 + (\frac{38-37}{47})1$

$Q_1 = 3.52$

$Q_3 = l + (\frac{.75N-F}{f})\, i$

N = 152
.75N = 112
l = 4.50
f = 68
F = 84
i = 1

$Q_3 = 4.50 + (\frac{114-84}{68})\, 1$

$Q_3 = 4.95$

$Q = Q_3 - Q_1$

$Q = 4.95 - 3.52 = 1.43$

Parent-Fame

X	f	F
1	2	2
2	13	15
3	27	42
4	53	95
5	57	152

N = 152
N/2 = 76
l = 3.50
f = 53
F = 42
i = 1

$M_i = 4.14 + = 1.48$

$M_i = l + (\frac{N/2 - F}{f}) i$

$M_i = 3.50 + (\frac{76-42}{53})$

$M_i = 4.14$

$Q_1 = l + (\frac{.25N - F}{f}) i$

N = 152
.25N = 38
l = 2.50
f = 27
F = 15
i = 1

$Q_1 = 2.50 + (\frac{38-15}{27}) 1$

$Q_1 = 3.35$

$Q_3 = l + (\frac{.75N - F}{f}) i$

N = 152
.75N = 114
l = 4.50
f = 57
F = 95
i = 1

$Q_3 = 4.50 + (\frac{114-95}{57}) 1$

$Q_3 = 4.83$

$Q = Q_3 - Q_1$

$Q = 4.83 - 3.35 = 1.48$

Parent-Power

X	f	F
1	19	19
2	26	45
3	31	76
4	36	112
5	40	152

N = 152
N/2 = 76
l = 2.50
f = 31
F = 45
i = 1

$M_1 = 3.50 \quad + = 1.33$

$M_1 = 1 + (\frac{N/2-F}{f})\ i$

$M_1 = 2.50 + (\frac{76-45}{31})\ 1$

$M_1 = 3.50$

$Q_1 = 1 + (\frac{.25-F}{f})1$

N = 152
.25N = 38
l = 1.50
f = 26
F = 19
i = 1

$Q_1 = 1.50 + (\frac{38-19}{26})1$

$Q_1 = 2.22$

$Q_3 = 1\ (\frac{.75-F}{f})\ 1$

N = 152
.75N = 114
l = 4.50
f = 40
F = 112
i = 1

$Q_3 = 4.50 + (\frac{114-112}{40})1$

$Q_3 = 4.55$

$Q = Q_3 - Q_1$

$Q = 4.55 - 2.22 = 1.33$

Parent-Profit

X	f	F
1	8	8
2	12	20
3	47	67
4	55	122
5	30	152

N = 152
N/2 = 76
l = 3.50
f = 55
F = 67
i = 1

$M_i = 3.66$ $Q = 1.47$

$M_i = l + (\frac{N/2 - F}{f})\, i$

$M_i = 3.50 + (\frac{76-67}{55})1$

$M_i = 3.66$

$Q_1 = l + (\frac{.25N - F}{f})i$

N = 152

.25N = 38

l = 2.50 $Q_1 = 2.50 + (\frac{38-20}{47})1$

f = 47 $Q_1 = 2.88$

F = 20

i = 1

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 152

.75N = 114

l = 3.50 $Q_3 = 3.50 + (\frac{114-67}{55})\,1$

f = 55 $Q_3 = 4.35$

F = 67

i = 1

$Q = Q_3 - Q_1$

$Q = 4.35 - 2.88 = 1.47$

Parent-leadership

X	f	F
1	11	11
2	24	35
3	33	68
4	32	100
5	52	152

N = 152
N/2 = 76
l = 3.50
f = 32
F = 68
i = 1

$M_1 = 3.75$ $\quad Q = 2.17$

$M_1 = l + \left(\frac{N/2 - F}{f}\right) i$

$M_1 = 3.50 + \left(\frac{76-68}{32}\right) 1$

$M_1 = 3.75$

$Q_1 = l + \left(\frac{.25N - F}{f}\right) i$

N = 152
.25N = 38
l = 2.50
f = 33
F = 35
i = 1

$Q_1 = 2.50 + \left(\frac{38-35}{33}\right)1$

$Q_1 = 2.91$

$Q_3 = l + \left(\frac{.75N - F}{f}\right) i$

N = 152
.75N = 114
l = 4.50
f = 52
F = 100
i = 1

$Q_3 = 4.50 + \left(\frac{114-100}{52}\right)1$

$Q_3 = 4.76$

$Q = Q_3 - Q_1$

$Q = 3.76 - 2.59 = 2.18$

Parent-security

X	f	F
1	0	0
2	4	4
3	23	27
4	42	69
5	83	152

N = 152
N/2 = 76
l = 4.50
f = 83
F = 69
i = 1

$M_i = 4.58$ $\quad Q = 1.04$

$M_i = l + (\frac{N/2-F}{f})i$

$M_i = 4.50 + (\frac{76-69}{83})\ 1$

$M_i = 4.58$

$Q_1 = l + (\frac{.25N-F}{f})\ i$

N = 152
.25N = 38
l = 3.50
f = 42
F = 27
i = 1

$Q_1 = 3.50 + (\frac{38-27}{42})1$

$Q_1 = 4.00$

$Q_3 = l + (\frac{.75-F}{f})\ i$

N = 152
.75N = 114
l = 4.50
f = 83
F = 69
i = 1

$Q_3 = 4.50 + (\frac{114-69}{83})1$

$Q_3 = 5.04$

$Q = Q_3 - Q_1$

$Q = 5.04 - 4.00 = 1.04$

Parent-Self-Expression

X	f	F
1	2	2
2	9	11
3	18	29
4	46	75
5	77	152

N = 152
N/2 = 76
l = 4.50
f = 77
F = 75
i = 1

$M_1 = 4.51$ $\quad Q = 1.31$

$M_1 = l + (\frac{N/2-F}{f})\, i$

$M_1 = 4.50 + (\frac{76-75}{77})\, 1$

$M_1 = 4.51$

$Q_1 = l + (\frac{.25N-F}{f})\, i$

N = 152

.25N = 38

l = 2.50

f = 46

F = 29

i = 1

$Q_1 = 3.50 + (\frac{38-29}{46})1$

$Q_1 = 3.69$

$Q_3 = l + (\frac{.75N-F}{f})\, i$

N = 152

.75N = 114

l = 4.50

f = 77

F = 75

i = 1

$Q_3 = 4.50 + (\frac{114-75}{77})1$

$Q_3 = 5.00$

$Q = Q_3 - Q_1$

$Q = 5.00 - 3.69 = 1.31$

Parent Social-Service

X	f	F
1	2	2
2	31	33
3	44	77
4	25	102
5	50	152

N = 152
N/2 = 76
l = 2.50
f = 44
F = 33
i = 1

$M_i = 3.47$ Q = 2.13

$M_i = l + (\frac{N/2 - F}{f})\, i$

$M_i = 2.50 + (\frac{76-33}{44})\, 1$

$M_i = 3.47$

$Q_1 = l + (\frac{.25N - F}{f})\, i$

N = 152

.25N = 38

l = 2.50

f = 44

F = 33

i = 1

$Q_1 = 2.50 + (\frac{83-33}{44})1$

$Q_1 = 2.61$

$Q_3 = l + (\frac{.75N - F}{f})i$

N = 152

.75N = 114

l = 4.50

f = 50

F = 102

i = 1

$Q_3 = 4.50 + (\frac{114-102}{50})1$

$Q_3 = 4.74$

$Q = Q_3 - Q_1$

$Q = 4.74 - 2.61 = 2.13$

APPENDIX 'B'

APPENDIX 'B'

JOB INTEREST QUESTIONNAIRE

S.No.	Jobs	S.No.	Jobs
1	Doctor (Medicine)	28	Petrochemical Engineer
2	Dentist	29	Mining Engineer
3	Psychotherapist	30	Steel Mill Engineer
4	Veterinary Surgeon	31	Plastic engineer
5	Pharmacist	32	Metallurgist
6	Lab. technician	33	Wood Industries Engineer
7	Physiotherapist	34	Indus.Methods engineer
8	Bacteriologist	35	Road & Building engineer
9	Radiologist	36	Safety engineer
10	Medical Assistant	37	Hydraulic engineer
11	Midwife	38	Civil engineer (Planning)
12	Hygienist	39	Communications engineer
13	Health Assistant	40	City engineer (Building)
14	Food expert	41	Shipbuilding engineer
15	Nurse	42	Aviation engineer
16	Hygiene instructor	43	Technician (Engineer)
17	Chemist	44	Agricultural engineer
18	Biologist	45	Helicopter engineer
19	Petrochemist	46	Soil conserv. engineer
20	Physician	47	Weather engineer
21	Naturalist	48	Agricultural engineer (Machinery)
22	Mathematician	49	Botanist
23	Mechanical Engineer	50	Plant Pathologist
24	Electrical engineer	51	Animal husbandry
25	Radio & TV engineer	52	Poultry farming
26	Industrial engineer (Metals)		
27	Textile engineer		

(Contd.)

Appendix 'B' (Contd.)

S.No.	Jobs	S.No.	Jobs
53	Park planner	82	Book-keeper
54	Gardner	83	Librarian
55	Forest service	84	File-keeper
56	Farming	85	Motel keeper
57	Cotton technician	86	Public relations officer
58	Agricultural promotor	87	Draftsman
59	Housing promotor	88	Hairdresser
60	Pilot	89	Tailor
61	Armed forces	90	Dress designer
62	Soldier	91	Air hostess
63	Air Force	92	Fireman
64	Sailor	93	Judge
65	Policeman	94	Public notary
66	Rural policeman	95	Lawyer
67	Aviator	96	Social worker
68	Parachutist	97	Educational counsellor
69	Helicopter technician	98	Family Counsellor
70	Captain (ship)	99	Psychologist
71	Driver (taxi, bus)	100	Political scientist
72	Space expert	101	Sociologist
73	Auditor	102	Archaeologist
74	Banker	103	Historian
75	Accountant	104	Geographer
76	Advertisement	105	School teacher
77	Business	106	Imam (religious leader)
78	Statistician	107	Writer
79	Computor operator	108	Journalist
80	Clerk	109	News reporter
81	Translator	110	Announcer

(Contd.)

Appendix 'B' (contd.)

S.No.	Jobs	S.No.	Jobs
111	Film Director	127	Carpenter
112	Stage manager	128	Enameller
113	Sound engineer	129	Carver (wood)
114	Film Producer	130	Sculptor
115	Dubber (Films)	131	Diver
116	Make-up man	132	Miniature maker
117	Comedian	133	Engraver
118	Stage Lighting manager	134	Silversmith
119	Film acting	135	Goldsmith
120	Orchestra conductor	136	Moulder
121	Music Director	137	Warshaw weaver
122	Musician	138	Calico Weaver
123	Singer	139	Cashmere weaver
124	Tile maker	140	Embroidery
125	Ceramic maker	141	Carpet weaver
126	Plaster moulder	142	Glass blower

Armed Forces-Students

X	f	F
1	18	18
2	22	40
3	30	70
4	32	102
Total	102	

N/2 = 51
l = 2.50
F = 40
f = 30
i = 1

$$M_1 = 1 + \left(\frac{N/2 - F}{f}\right)i$$

$$M_1 = 2.50 + \left(\frac{51-40}{30}\right)1$$

$$M_1 = 2.87$$

$$Q_1 = 1 + \left(\frac{.25N - F}{f}\right)i$$

.25N = 25.50
l = 1.50
F = 18
f = 22
i = 1

$$Q_1 = 1.50 + \left(\frac{25.50-18}{22}\right)1$$

$$Q_1 = 1.64$$

$$Q_3 = 1 + \left(\frac{.75N - F}{f}\right)i$$

.75N = 76.50
l = 3.50
F = 70
f = 32
i = 1

$$Q_3 = 3.50 + \left(\frac{76.50-70}{32}\right)1$$

$$Q_3 = 3.70$$

$$Q = Q_3 - Q_1$$

$$Q = 3.70 - 1.64 = 1.86$$

Civil Engineering - Students

X	f	F
1	12	12
2	28	40
3	32	72
4	24	96
Total	96	

N/2 = 48
l = 2.50
F = 40
f = 32
i = 1

$M_i = 1 + (\frac{N/2-F}{f})$

$M_i = 2.50 + (\frac{48-40}{32})$

$M_i = 2.75$

$Q_1 = 1 + (\frac{.25N-F}{f})i$

.25N = 24
l = 1.50
F = 12
f = 28
i = 1

$Q_1 = 1.5 + (\frac{24-12}{28})1$

$Q_1 = 1.93$

$Q_3 = 1 + (\frac{.75N-F}{f})$

.75N = 72
l = 2.50
F = 40
f = 32
i = 1

$Q_3 = 2.5 + (\frac{72-40}{32})1$

$Q_3 = 3.44$

$Q = Q_3 - Q_1$

$Q = 3.44 - 1.93$ 1 1.51

Educational Counsellor - Students

X	f	F
1	28	28
2	26	54
3	33	87
4	26	113
Total	113	

N/2 = 56.50
l = 2.50
F = 54
f = 33
i = 1

$$M_i = l + \left(\frac{N/2 - F}{f}\right) i$$

$$M_i = 2.50 + \left(\frac{56.50 - 54}{33}\right) 1$$

$$M_i = 2.58$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right) i$$

.25N = 28.25
l = 1.50
F = 28
f = 26
i = 1

$$Q_1 = 1.50 + \left(\frac{28.25 - 28}{26}\right) 1$$

$Q_1 = 1.51$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right) i$$

.75N = 85.50
l = 2.50
F = 54
f = 33
i = 1

$$Q_3 = 2.50 + \left(\frac{85.50 - 54}{33}\right) 1$$

$Q_3 = 3.46$

$$Q = Q_3 - Q_1$$

$$Q = 3.46 - 1.51 = 1.95$$

Electrical Engineering - Students

X	f	F
1	36	36
2	34	70
3	25	95
4	22	117
Total	117	

N/2 = 58.50
l = 1.50
F=36
f = 34
i = 1

$$M_1 = 1 + \left(\frac{N/2-F}{f}\right)i$$

$$M_1 = 1.50 + \left(\frac{58.50-36}{34}\right)1$$

$$M_1 = 2.16$$

$$Q_1 = 1 + \left(\frac{.25N-F}{f}\right)i$$

.25N = 29.25
l = 0.50
F = 0
f = 36
i = 1

$$Q_1 = 0.50 + \left(\frac{29.50-0}{36}\right)1$$

$$Q_1 = 1.32$$

$$Q_3 = 1 + \left(\frac{.75N-F}{f}\right)i$$

.75N = 87.75
l = 2.50
F = 70
f = 25
i = 1

$$Q_3 = 2.50 + \left(\frac{87.75-70}{25}\right)1$$

$$Q_3 = 3.21$$

$$Q = Q_3 - Q_1$$

$$Q = 3.21 - 1.32 = 1.89$$

Imam - Students

X	f	F
1	16	16
2	18	34
3	24	58
4	30	88
Total	88	

N/2 = 44
l = 2.50
F = 34
f = 24
i = 1

$$M_1 = l+(\frac{N/2-F}{f})i$$

$$M_1 = 1.50+(\frac{44-34}{24})1$$

$$M_1 = 2.92$$

$$Q_1 = l +(\frac{.25N-F}{f})i$$

.25N = 22
l = 1.50
F = 16
f = 18
i = 1

$$Q_1=1.5+(\frac{22-16}{18})1$$

$Q_1 = 1.83$

$$Q_3 = l +(\frac{.75N/F}{})i$$

.75N = 66
l = 3.50
F = 58
f = 30
i = 1

$$Q_3=3.5+(\frac{66-58}{30})1$$

$Q_3 = 3.77$

$$Q = Q_3-Q_1$$

$$Q = 3.77-1.83 = 1.94$$

Mechanical Engineering - Students

X	f	F
1	14	14
2	16	30
3	26	56
4	15	71
Total	71	

N/2 = 35.50
l = 2.50
F = 30
f = 26
i = 1

$$M_1 = 1+(\frac{N/2-F}{f})i$$

$$M_1 = 2.50+(\frac{35.50-30}{26})1$$

$$M_1 = 2.71$$

$$Q_1 = 1 +(\frac{.25N-F}{f})$$

.25N = 17.75
l = 1.50
F = 14
f = 16
i = 1

$$Q_1 = 1.50+(\frac{17.75-14}{16})1$$

$$Q_1 = 1.73$$

$$Q_3 = 1 +(\frac{.75N-F}{f})i$$

.75N = 53.25
l = 2.50
F = 30
f = 26
i = 1

$$Q_3 = 2.50+(\frac{53.25-30}{26})1$$

$$Q_3 = 3.39$$

$$Q = Q_3-Q_1$$

$$Q = 3.39-1.73 = 1.66$$

Medicine - students

X	f	F
1	48	48
2	42	90
3	14	104
4	30	134
Total	134	

$N/2 = 67$
$l = 1.50$
$F = 48$
$f = 42$
$i = 1$

$$M_1 = l + \left(\frac{N/2 - F}{f}\right)i$$

$$M_1 = 1.50 + \left(\frac{67-48}{42}\right)1$$

$$M_1 = 1.95$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right)i$$

$.25N = 33.50$
$l = 0.50$
$F = 0$
$f = 48$
$i = 1$

$$Q_1 = 0.50 + \left(\frac{33.50-0}{48}\right)1$$

$$Q_1 = 1.20$$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right)i$$

$.75N = 100.50$
$l = .250$
$F = 90$
$f = 14$
$i = 1$

$$Q_3 = 2.50 + \left(\frac{100.50-90}{14}\right)1$$

$$Q_3 = 3.25$$

$$Q = Q_3 - Q_1$$

$$Q = 3.25 - 1.20 = 1.05$$

Nursing - students

X	f	F
1	16	16
2	10	26
3	12	38
4	15	53
Total	53	

N/2= 26.50
l = 2.50
F = 26
f = 12
i = 1

$$M_i = l + \left(\frac{N/2 - F}{f}\right)i$$

$$M^i = 2.50 + \left(\frac{26.50 - 26}{12}\right)1$$

$$M_i = 2.54$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right)i$$

.25N = 13.25
l = 0.50
F = 0
f = 16
i = 1

$$Q_1 = 0.5 + \left(\frac{13.25 - 0}{16}\right)$$

$Q_1 = 1.33$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right)i$$

.75N = 39.75
l = 3.50
F = 38
f = 15
i = 1

$$Q_3 = 3.50 + \left(\frac{39.75 - 38}{15}\right)1$$

$Q_3 = 3.62$

$$Q = Q_3 - Q_1$$

$$Q = 3.62 - 1.33 = 2.29$$

Pilot - students

X	f	F
1	24	24
2	16	40
3	30	70
4	24	94
Total	94	

$N/2 = 47$
$l = 2.50$
$F = 40$
$f = 30$
$i = 1$

$$M_1 = 1 + \left(\frac{N/2 - F}{f}\right)1$$

$$M_1 = 2.50 + \left(\frac{47-40}{30}\right)1$$

$$M_1 = 2.73$$

$$Q_1 = 1 + \left(\frac{.25N - F}{f}\right)1$$

$.25N = 23.50$
$l = 0.50$
$F = 0$
$f = 24$
$i = 1$

$$Q_1 = 0.50 + \left(\frac{23.50-0}{24}\right)1$$

$$Q_1 = 1.48$$

$$Q_3 = 1 + \left(\frac{.75N - F}{f}\right)1$$

$.75N = 70.50$
$l = 3.50$
$F = 70$
$f = 24$
$i = 1$

$$Q_3 = 3.50 + \left(\frac{70.50-70}{24}\right)1$$

$$Q_3 = 3.52$$

$$Q = Q_3 - Q_1$$

$$Q = 3.52 - 1.48 = 2.04$$

Teaching - students

X	f	F
1	34	34
2	32	66
3	18	84
4	26	110
Total	110	

N/2 = 55
l = 1.50
F = 34
f = 32
i = 1

$$M_i = l + \left(\frac{N/2 - F}{f}\right)i$$

$$M_i = 1.50 + \left(\frac{55-34}{32}\right)1$$

$$M_i = 2.16$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right)i$$

.25N = 27.50
l = 0.50
F = 0
i = 1

$$Q_1 = 0.50 + \left(\frac{27.50-0}{34}\right)1$$

$$Q_1 = 1.31$$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right)i$$

.75N = 82.50
l = 2.50
F = 66
i = 1

$$Q_3 = 2.50 + \left(\frac{82.50-66}{18}\right)1$$

$$Q_3 = 3.42$$

$$Q = Q_3 - Q_1$$

$$Q = 3.42 - 1.31 = 2.11$$

Non-Guidance-Medicine

X	f	F
1	38	38
2	9	47
3	7	54
4	5	59
5	59	198

N = 59
N/2=29.50
l = 0.50
f = 38
F = 0
i = 1

$$M_1 = 1 + \left(\frac{N/2-F}{f}\right)i$$

$$M_1 = 0.50 + \left(\frac{29.50-0}{38}\right)1$$

$$M_1 = 1.28$$

$$Q_1 = 1 + \left(\frac{.25N-F}{f}\right)1$$

N = 59

.25N = 14.75

l = .50 $Q_1 = .50 + \left(\frac{14.75-0}{38}\right)$

f = 38 $Q_1 = .89$

F = 0

i = 1

$$Q_3 = 1 + \left(\frac{.75N-F}{f}\right)1$$

N = 59

.75 N = 44.25

l = 1.50 $Q_3 = 1.50 + \left(\frac{44.25}{9}\right)1$

f = 9 $Q_3 = 2.02$

F = 38

i = 1

$$Q = Q_3 - Q_1 = 2.02 - 0.89 = 1.13$$

Non-Guidance Teaching

X	f	F
1	25	25
2	20	45
3	4	49
4	3	52
5	52	171

N = 52
N/2 = 26
l = 1.50
f = 20
F = 25
i = 1

$$M_i = 1 + \left(\frac{N/2 - F}{f}\right) i$$

$$M_i = 1.50 + \left(\frac{26-25}{20}\right)1$$

$$M_i = 1.55$$

$$Q_1 = 1 + \left(\frac{.25N - F}{f}\right) i$$

N = 52
.25 N = 13
l = .50
f = 25
F = 0
i = 1

$$Q_1 = 0.50 + \left(\frac{13-0}{25}\right)1$$

$$Q_1 = 1.02$$

$$Q_3 = 1 + \left(\frac{.75N - F}{f}\right)i$$

N = 52
.75N = 39
l = 1.50
f = 20
F = 25
i = 1

$$Q_3 = 1.50 + \left(\frac{39-25}{20}\right)1$$

$$Q_3 = 2.20$$

$$Q = Q_3 - Q_1 = 2.20 - 1.02 = 1.18$$

Non-Guidance Electrical Engineer

X	f	F
1	19	19
2	11	30
3	7	37
4	16	53
5	53	139

N = 53
N/2= 26.50
l = 1.50
f = 11
F = 19
i = 1

$$M_i = l + \left(\frac{N/2 - F}{f}\right) i$$

$$M_i = 1.50 + \left(\frac{26.50 - 19}{11}\right) 1$$

$$M_i = 2.18$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right) i$$

N =53
.25N = 13.25
l = 0.50
f = 19
F = 0
i = 1

$$Q_1 = 0.5 + \left(\frac{13.25 - 0}{19}\right) 1$$

$$Q_1 = 1.59$$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right) i$$

N = 53
.75N= 39.75
l = 3.50
f = 16
F = 37
i = 1

$$Q_3 = 3.50 + \left(\frac{39.75 - 37}{16}\right) 1$$

$$Q_3 = 3.67$$

$$Q = Q_3 - Q_1 = 3.67 - 1.59 = 2.08$$

Non-Guidance Police Officer

X	f	F
1	21	21
2	16	37
3	6	43
4	5	48
5	48	149

N = 48
N/2 = 24
l = 1.50
f = 16
F = 21
i = 1

$M_1 = 1 + (\frac{N/2-F}{f})\,i$

$M_1 = 1.50 + (\frac{24-21}{16})1$

$M_1 = 1.60$

$Q_1 = 1 + (\frac{.25N-F}{f})i$

N = 49

.25N = 12

l = 0.50

f = 21

F = 0

i = 1

$Q_1 = 0.50 + (\frac{12-0}{21})1$

$Q_1 = 1.07$

$Q_3 = 1 + (\frac{.75N-F}{f})i$

N = 48

.75N = 36

l = 1.50

f = 16

F = 21

i = 1

$Q_3 = 1.50 + (\frac{36-21}{16})\,1$

$Q_3 = 2.44$

$Q = Q_3 - Q_1 = 2.44 - 1.07 = 1.37$

Non-Guidance - Judge

X	f	F
1	22	22
2	18	40
3	7	47
4	1	48
5	48	157

N = 48
N/2 = 24
l = 1.50
f = 18
F = 22
i = 1

$M_1 = l + (\frac{N/2 - F}{f}) i$

$M_1 = 1.50 + (\frac{24-22}{18}) 1$

$M_1 = 1.61$

$Q_1 = l + (\frac{.25N - F}{f}) i$

N = 48
.25N = 12
l = 0.50
f = 22
F = 0
i = 1

$Q_1 = 0.50 + (\frac{12-0}{22})$

$Q_1 = 1.05$

$Q_3 = l + (\frac{.75N - F}{f}) i$

N = 48
.75N = 36
l = 1.50
f = 18
F = 22
i = 1

$Q_3 = 1.50 + (\frac{36-22}{18}) 1$

$Q_3 = 2.28$

$Q = Q_3 - Q_1 = 2.28 - 1.05 = 1.23$

Non-Guidance- Pilot

X	f	F
1	11	11
2	16	27
3	5	32
4	3	35
5	35	105

N = 35
N/2 = 17.50
l = 1.50
f = 16
F = 11
i = 1

$$M_1 = L + \left(\frac{N/2 - F}{f}\right) i$$

$$M_1 = 1.50 + \left(\frac{17.50 - 11}{16}\right) 1$$

$$M_1 = 1.91$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right) i$$

N = 35
.25N = 8.75
l = 0.50
f = 11
F = 0
i = 1

$$Q_1 = 0.50 + \left(\frac{8.75 - 0}{11}\right) 1$$

$$Q_1 = 1.30$$

$$Q_3 = l - \left(\frac{.75N - F}{f}\right) i$$

N = 35
.75N = 26.25
l = 1.50
f = 16
F = 11

$$Q_3 = 1.50 + \left(\frac{26.25 - 11}{16}\right) 1$$

$$Q_3 = 2.15$$

$$Q = Q_3 - Q_1 = 2.15 - 1.30 = 0.85$$

BOB-GUIDANCE-TEAM

X	f	F
1	13	13
2	5	18
3	2	20
4	4	24
5	24	75

N = 24
N/2 = 12
l = 0.50
f = 13
F = 0
i = 1

$M_1 = 0.50 + (\frac{12-0}{13})$

$M_1 = 1.42$

$Q_1 = l + (\frac{.25N-F}{f})\, i$

N = 24
.25N = 6
l = 0.50
f = 13
F = 0
i = 1

$Q_1 = 0.50 + (\frac{6-0}{13})1$

$Q_1 = 0.96$

$Q_3 = l - (\frac{.75N-F}{f})\, i$

N = 24
.75N = 18
l = 1.50
f = 5
F = 13
i = 1

$Q_3 = 1.50 + (\frac{18-13}{5})1$

$Q_3 = 2.20$

$Q = Q_3 - Q_1 = 2.20 - 0.96 = 1.24$

Non-Guidance - Airplane Building

X	f	F
1	9	9
2	12	21
3	12	33
4	14	47
5	48	110

N = 47
N/2 = 23.50
l = 2.50
f = 12
F = 21
i = 1

$$M_1 = 1 + \left(\frac{N/2 - F}{f}\right)i$$

$$M_1 = 2.50 + \left(\frac{23.50 - 21}{12}\right)1$$

$$M_1 = 2.71$$

$$Q_1 = 1 + \left(\frac{.25N - F}{f}\right)i$$

N = 47
.25N = 11.75
l = 1.50
f = 12
F = 9
i = 1

$$Q_1 = 1.50 + \left(\frac{11.75 - 9}{12}\right)1$$

$$Q_1 = 1.73$$

$$Q_3 = 1 + \left(\frac{.75N - F}{f}\right)1$$

N = 47
.75N = 35.25
l = 3.50
f = 14
F = 33
i = 1

$$Q_3 = 3.50 + \left(\frac{35.25 - 33}{14}\right)1$$

$$Q_3 = 3.66$$

$$Q = Q_3 - Q_1 = 3.66 - 1.73 = 1.93$$

Non-Guidance - Computer

X	f	F
1	11	11
2	9	20
3	10	30
4	8	38
5	38	99

N = 38
N/2 = 19
l = 1.50
f = 9
F = 11
i = 1

$$M_1 = l + \left(\frac{N/2 - F}{f}\right)i$$

$$M_1 = 1.50 + \left(\frac{19-11}{9}\right)1$$

$$M_1 = 2.39$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right)i$$

N = 38
.25N = 9.50
l = 0.50
f = 11
F = 0
i = 1

$$Q_1 = 0.50 + \left(\frac{9.50-0}{11}\right)1$$

$$Q_1 = 1.36$$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right)i$$

N = 38
.75N = 28.50
l = 2.50
f = 10
F = 20
I = 1

$$Q_3 = 2.50 + \left(\frac{28.50-20}{10}\right)1$$

$$Q_3 = 3.35$$

$$Q = Q_3 - Q_1 = 3.35 - 1.36 = 1.99$$

Non-Guidance - Airplane Hostes

X	f	F
1	8	8
2	6	14
3	13	27
4	7	34
5	34	83

N = 34
N/2 = 17
l = 2.50
f = 13
F = 14
i = 1

$M_1 = 1 + (\frac{N/2-F}{f})i$

$M_1 = 2.50 + (\frac{17-14}{13})1$

$M_1 = 2.73$

$Q_1 = 1 + (\frac{.25N-F}{f})i$

N = 34
.25N = 8.50
l = 1.50
f = 6
F = 8
i = 1

$Q_1 = 1.50 + (\frac{8.50-8}{6})1$

$Q_1 = 1.58$

$Q_3 = 1 + (\frac{.75N-F}{f})i$

N = 34
.75N = 25.50
l 2.50
f = 13
F = 14
i = 1

$Q_3 = 2.50 + (\frac{25.50-14}{13})1$

$Q_3 = 3.38$

$Q = Q_3 - Q_1 = 3.38 - 1.58 = 1.8$

Civil Engineering - Parents

X	f	F
1	40	40
2	37	77
3	21	98
4	9	107
Total	107	

$N/2 = 53.50$
$l = 1.50$
$f = 37$
$F = 40$
$i = 1$

$$M_i = l + \left(\frac{N/2 - F}{f}\right)i$$

$$M_i = 1.50 + \left(\frac{53.50 - 40}{37}\right)1$$

$$M_i = 1.86$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right)i$$

$.25N = 26.75$
$l = 0.50$
$F = 0$
$f = 40$
$i = 1$

$$Q_1 = 0.5 + \left(\frac{26.75 - 0}{40}\right)1$$

$$Q_1 = 1.17$$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right)i$$

$.75N = 80.25$
$l = 2.50$
$F = 77$
$f = 21$
$i = 1$

$$Q_3 = 2.5 + \left(\frac{80.25 - 77}{21}\right)1$$

$$Q_3 = 2.65$$

$$Q = Q_3 - Q_1$$

$$Q = 2.65 - 1.17 = 1.48$$

Electrical Engineering - Parents

X	f	F
1	35	35
2	42	77
3	16	93
4	13	106
Total	106	

$N/2 = 53$
$l = 1.50$
$F = 35$
$f = 42$
$i = 1$

$$M_i = l + \left(\frac{N/2 - F}{f}\right) i$$

$$M_i = 1.5 + \left(\frac{53 - 35}{42}\right) 1$$

$$M_i = 1.99$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right) i$$

$.25N = 26.50$
$l = 0.50$
$F = 0$
$f = 35$
$i = 1$

$$Q_1 = 0.50 + \left(\frac{26.50 - 0}{35}\right) 1$$

$$Q_1 = 1.26$$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right) i$$

$.75N = 79.50$
$l = 2.50$
$F = 77$
$f = 16$
$i = 1$

$$Q_3 = 2.50 + \left(\frac{79.50 - 77}{16}\right) 1$$

$$Q_3 = 2.66$$

$$Q = Q_3 - Q_1$$

$$Q = 2.66 - 1.26 = 1.40$$

Imam - Parents

X	f	F
1	28	28
2	18	46
3	34	80
4	17	97
Total	97	

$N/2 = 48.50$
$l = 2.50$
$F = 46$
$f = 35$
$i = 1$

$$M_1 = 1 + \left(\frac{N/2 - F}{f}\right)i$$

$$M_1 = 2.40 + \left(\frac{48.50 - 46}{34}\right)1$$

$$M_1 = 2.57$$

$$Q_1 = 1 = \left(\frac{.25N - F}{f}\right)i$$

$.25N = 42.25$
$l = 0.50$
$F = 0$
$f = 28$
$i = 1$

$$Q_1 = 0.50 + \left(\frac{42.25 - 0}{28}\right)1$$

$$Q_1 = 1.37$$

$$Q_3 = 1 + \left(\frac{.75N - F}{f}\right)i$$

$.75N = 72.50$
$l = 2.50$
$F = 46$
$f = 34$
$i = 1$

$$Q_3 = 2.5 + \left(\frac{72.50 - 46}{34}\right)1$$

$$Q_3 = 3.28$$

$$Q = Q_3 - Q_1$$

$$Q = 3.28 - 1.37 = 1.01$$

Judge - Parents

X	f	F
1	33	33
2	40	73
3	12	85
4	13	98
Total	98	

$N/2 = 49$
$l = 0.50$
$F = 33$
$f = 40$
$i = 1$

$$M_i = 1 + \left(\frac{N/2 - F}{f}\right)i$$

$$M_i = 0.50 + \left(\frac{49 - 33}{40}\right)1$$

$$M_i = 1.40$$

$$Q_1 = 1 + \left(\frac{.25N - F}{f}\right)i$$

$.25N = 24.75$
$l = 0.50$
$F = 0$
$f = 33$
$i = 1$

$$Q_1 = 0.5 + \left(\frac{24.75 - 0}{33}\right)1$$

$Q_1 = 1.25$

$$Q_3 = 1 + \left(\frac{.75N - F}{f}\right)i$$

$.75N = 74.25$
$l = 2.25$
$F = 75$
$f = 12$
$i = 1$

$$Q_3 = 2.5 + \left(\frac{74.25 - 73}{12}\right)1$$

$Q_3 = 2.60$

$$Q = Q_3 - Q_1$$

$$Q = 2.60 - 1.25 = 1.35$$

Mechanical Engineering - Parents

X	f	F
1	30	30
2	37	67
3	12	79
4	9	88
Total	88	

$N/2 = 44$
$l = 1.50$
$F = 30$
$f = 37$
$i = 1$

$$M_1 = 1 + \left(\frac{N/2 - F}{f}\right)i$$

$$M_1 = 1.50 + \left(\frac{44-30}{37}\right)1$$

$$M_1 = 1.88$$

$$Q_1 = 1 + \left(\frac{.25N - F}{f}\right)i$$

$.24N = 22$
$l = 0.50$
$F = 0$
$f = 37$
$i = 1$

$$Q_1 = 0.5 + \left(\frac{22-0}{37}\right)1$$

$$Q_1 = 1.88$$

$$Q_3 = 1 + \left(\frac{.75N - F}{f}\right)i$$

$.75N = 66$
$l = 1.50$
$F = 30$
$f = 37$
$i = 1$

$$Q_3 = 1.5 + \left(\frac{66-30}{37}\right)1$$

$$Q_3 = 2.47$$

$$Q = Q_3 - Q_1$$

$$Q = 2.47 - 1.88 = 1.47$$

Medicine - Parents

X	f	F
1	55	55
2	46	101
3	16	117
4	18	135
Total	135	

N/2 = 67.50
l = 1.50
F = 55
f = 46
i = 1

$$M_1 = 1 + (\frac{N/2-F}{f})i$$

$$M_1 = 1.50 + (\frac{67.50-55}{46})1$$

$$M_1 = 1.77$$

$$Q_1 = 1 + (\frac{.25N-F}{f})i$$

.25N = 33.76
l = 0.5
F = 0
f = 55
i = 1

$$Q_1 = 0.50 + (\frac{33.75-0}{55})1$$

$$Q_1 = 1.11$$

$$Q_3 = 1 + (\frac{.75N-F}{f})i$$

.75N = 101.25
l = 2.5
F = 101
f = 16
i = 1

$$Q_3 = 2.5 + (\frac{101.25-101}{16})1$$

$$Q_3 = 2.62$$

$$Q = Q_3 - Q_1$$

$$Q = 2.62 - 1.11 = 1.41$$

Military Service - Parents

X	f	F
1	21	21
2	22	43
3	16	59
4	35	94
Total	94	

N/2 = 47
l = 2.50
F = 43
f = 16
i = 1

$$M_1 = 1+(\frac{N/2-F}{f})i$$

$$M_1 = 2.50+(\frac{47-43}{16})1$$

$$M_1 = 2.75$$

$$Q_1 = 1 +(\frac{.25N-F}{f})i$$

.25N = 23.5
l = 1.50
F = 21
f = 22
i = 1

$$Q_1=1.5+(\frac{23.50-21}{22})1$$

$$Q_1 = 1.61$$

$$Q_3 = 1 +(\frac{.75N-F}{f})i$$

.75N= 70.50
l = 3.50
F = 59
f = 35
i = 1

$$Q_3=3.5+(\frac{70.50-59}{35})1$$

$$Q_3 = 3.82$$

$$Q = Q_3 - Q_1$$

$$Q = 3.82 - 1.61 = 2.21$$

Pilot - Parents

X	f	F
1	15	15
2	25	40
3	4	44
4	17	61
Total	61	

$N/2 = 30.50$
$l = 1.50$
$F = 15$
$f = 25$
$i = 1$

$$M_1 = l + \left(\frac{N/2 - F}{f}\right) i$$

$$M_1 = 1.50 + \left(\frac{30.50 - 15}{25}\right)$$

$$M_1 = 2.12$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right) i$$

$.25N = 15.25$
$l = 1.50$
$F = 15$
$f = 25$
$i = 1$

$$Q_1 = 1.50 + \left(\frac{15.25 - 15}{25}\right) 1$$

$$Q_1 = 1.91$$

$$Q_3 = L + \left(\frac{.75N - F}{f}\right) i$$

$.75N = 45.75$
$l = 3.50$
$F = 44$
$f = 17$
$i = 1$

$$Q_3 = 3.50 + \left(\frac{45.75 - 44}{17}\right) 1$$

$$Q_3 = 3.60$$

$$Q = Q_3 - Q_1$$

$$Q = 3.60 - 1.91 = 1.69$$

Police Officers - Parents

X	f	F
1	38	38
2	24	62
3	18	80
4	10	90
Total	90	

$N/2 = 45$
$l = 1.50$
$F = 38$
$f = 24$
$i = 1$

$$M_i = l + \left(\frac{N/2 - F}{f}\right)i$$

$$M_i = 1.50 + \left(\frac{45-38}{24}\right)1$$

$$M_i = 1.79$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right)i$$

$.25N = 23.50$
$l = 0.50$
$F = 0$
$f = 38$
$i = 1$

$$Q_1 = 0.5 + \left(\frac{22.50-0}{38}\right)1$$

$Q_1 = 1.09$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right)i$$

$.75N = 67.50$
$l = 2.50$
$F = 62$
$f = 18$
$i = 1$

$$Q_3 = 2.5 + \left(\frac{64.50-62}{18}\right)1$$

$Q_3 = 2.80$

$$Q = Q_3 - Q_1$$

$$Q = 2.80 - 1.79 = 1.71$$

Teaching - Parents

X	f	F
1	40	40
2	50	92
3	11	103
4	8	111
Total	111	

N/2 = 55.50
l = 1.50
F = 40
f = 52
i = 1

$$M_i = l + \left(\frac{N/2 - F}{f}\right)i$$

$$M_i = 1.50 + \left(\frac{55.50 - 40}{52}\right)1$$

$$M_i = 1.80$$

$$Q_1 = l + \left(\frac{.25N - F}{f}\right)i$$

.25N = 27.75
l = 0.50
F = 0
f = 40
i = 1

$$Q_1 = 0.50 + \left(\frac{27.75 - 0}{40}\right)1$$

$Q_1 = 1.19$

$$Q_3 = l + \left(\frac{.75N - F}{f}\right)i$$

.75N = 83.25
l = 1.50
F = 40
f = 52
i = 1

$$Q_3 = 1.50 + \left(\frac{83.25 - 40}{52}\right)1$$

$Q_3 = 2.33$

$$Q = Q_3 - Q_1$$

$$Q = 2.33 - 1.19 = 1.14$$